The Relationship between Types of Workers and Incidence of Carpal Tunnel Syndrome in Tailors at the Garment Factory North Jakarta

by Yunita R. M. B. Sitompul

Submission date: 13-May-2022 11:38AM (UTC+0700)
Submission ID: 1835193342
File name: TheRelationshipBetweenTypes.pdf (224.38K)
Word count: 4763
Character count: 23021

International Journal of Health Sciences and Research
Vol.12; Issue: 5; May 2022
Website: www.ijhsr.org
ISSN: 2249-9571

Original Research Article

The Relationship between Types of Workers and Incidence of Carpal Tunnel Syndrome in Tailors at the Garment Factory North Jakarta

Yunita R. M. B. Sitompul

Department of Medical Community, Medical Faculty, Universitas Kristen Indonesia, Jakarta

Corresponding Author: Yunita R. M. B. Sitompul

DOI: https://doi.org/10.52403/ijhsr.20220529

ABSTRACT

Carpal Tunnel Syndrome (CTS) is a type of occupational disease caused by repetitive movements and awkward positions that persist for long periods so that the median nerve in the hand becomes depressed. Therefore, it can lead to numbness, tingling, and pain. One job that does much static activity with repetitive movements is a tailor. This study aims to investigate the correlation between work type the CTS incidence in tailors in the area of Garment Factory in the field. This study was a descriptive-analytic study with a cross-sectional study design. The sample in this study was 54 tailors and data collection using questionnaires to see repetitive movements and awkward postures on the hands and Phalen's test to find out complaints of CTS. The results showed that types of work did not correlate with complaints of CTS (p = 0.72), but repetitive movements correlated with complaints of CTS (p = 0.017) and that the awkward posture of hands correlated with CTS complaints (p = 0.018).

Keywords: CTS, Garment Factory, Repetitive motion.

INTRODUCTION

Along with the increasing human need for jobs, industrial development is also overgrowing, one of which is the textile industry. Indonesian textiles' export value is quite prospective including solid textile exporters [1]. The textile industry is divided into several parts in the production process, including the Garment Factory section. A Garment Factory business is a business that belongs to the category of small and medium-scale businesses that produce apparel. One of the working processes in the Garment Factory business is sewing which is done by hand - machine - hand so that work in the sewing section requires good coordination of posture and wrist movements and concentration [2].

Efforts to protect against hazards that arise and the achievement of peace and Workers by working in a safe, healthy, and safe way are basic needs [3]. According to Law No. 36 of 2009 Chapter XII article 164 concerning health, occupational health efforts are proposed to protect workers from living healthy and free from health problems and harmful effects caused by work. However, the informal sector, such as Garment Factories, has less awareness and knowledge of the hazards of the work environment, making employees more susceptible to get occupational diseases [4].

Occupational diseases and accidents have become important health problem in Indonesia. The highest number of work-related accidents in 2011 – 2014 was in 2013 which was 35,917 cases of work accidents (Year 2011 = 9,891; Year 2012 = 21,735; Year 2014 = 24,910). In the Labor Force Survey (LFS) in the UK in 2015/16, it was stated that approximately 1.3 million people suffered from Occupational disease

and 30.4 million lost work time due to Occupational disease and injuries, resulting in £14.1 billion in costs incurred to treat it [5].

Occupational Diseases are diseases caused by work and the work environment [6; 7]. One of the risk factors is in the form of physiologic (ergonomic) groups. These that is workplace designs are less ergonomic, do not follow human physiology and anatomy, body postures at work, and seats, work desks that are guided by anthropometric measurements, and work methods that use a lot of awkward positions for a long time and repetitive movements [8].

In Garment Factory, the most common occupational diseases are musculoskeletal-related diseases. One of the musculoskeletal disorders is CTS. CTS is a condition that causes numbness, tingling, weakness, and pain in the hand caused by pressure on the median nerve, which is found in the wrist. The wrist is connected to the arm by several tendons and the median nerve. The median nerve plays an essential role in the wrist, as it controls the movement of the thumb and other fingers, except the little finger [9].

The National Institute for Occupational Safety and Health (NIOSH) estimates that the self-reported prevalence of CTS among the adult population is 2.6 million. According to the International Labour Organization (ILO), there are 1.1 million deaths caused by occupational diseases every year. Approximately 300,000 deaths occur from 250 million accidents, and the rest are deaths due to occupational diseases, where an estimated 160 million new occupational diseases occur every year [10].

In Indonesia, the order of prevalence of CTS in occupational problems is unknown because, until 2001, there were very few diagnoses of occupational diseases reported due to various reasons, including the difficulty of diagnosis. Studies in high-risk occupations of the wrist and hand report a prevalence of CTS between 5.6% and 15% [3]. Meanwhile, according to Astrina Aulia's research on workers in the packing plant section in Indarung, West Sumatra, it is known that 65.2% of workers suffer from CTS [10].

Based on the description above, the researcher decided to conduct a study to determine the correlation between Garment Factory workers and the incidence of CTS.

METHOD

This research was conducted through a cross-sectional study. This research was conducted at the Garment Factory in North Jakarta. This research was conducted in September 2018. The population is a generalization consisting of objects or subjects with specific quantities and characteristics applied by researchers to be studied and then concluded. In this study, the population will be all tailors at the Garment Factory in North Jakarta. The sample is part of the number and characteristics possessed by the population.

The minimum acceptable size based on the type of analytical survey research by assessing correlation is 30 subjects (sample). So the number of samples in this study was around 54 people. Research subjects were selected using purposive sampling. The population obtained is based on research subjects' inclusion and exclusion criteria. The research variable is the incidence of carpal tunnel syndrome and the type of work. A research instrument is a tool used to collect data in research. The instruments used in this research are questionnaires and documentation. To test the validity, the instrument was tested and then calculated by using the product-moment correlation test using the computer-assisted SPSS version 21 program. The correlation technique used was the "product moment" correlation technique.

RESULT AND DISCUSSION

Research on several factors related to the incidence of CTS in tailors at the Garment Factory area used 54 people (respondents).

Table 1. Distribution of Respondents based on Phalen's Test

Test Phalen's	Number	%
Positive	32	59.3
Negative	22	40.7
Total	**54**	**100.0**

Based on the table above, it can be seen that the frequency of the largest Phalen Test respondents in the Positive category was 59.3% (32 people), while the respondents in the negative category were 40.7% (22 people).

Table 2. Distribution of Respondents by type of work

Type of work	Number	%
Cutting	9	16.7
Making	29	53.7
Trimming	16	29.6
Total	**54**	**100.0**

Based on the table above, it can be seen that the frequency of respondents based on the type of work, those who worked in the making are more frequent at53.7% (29 people), while the respondents who worked as cutting is 16.7% (9 people). Furthermore, those who work in trimming is 29.6% (16 people).

Table 3. Distribution of Respondents by Years of Service

Years of service	Number	%
Long	31	57.4
Short	23	42.6
Total	**54**	**100.0**

Based on the table above, it can be seen that the frequency of respondents with a long working period is 57.4% (31 people), while respondents with a short year of service are 42.6% (23 people).

Table 4. Distribution of Respondents by Number of Working Hours in a Day

Working Hours	Number	%
Short	12	22.2
Long	42	77.8
Total	**54**	**100.0**

Based on the table above, it can be seen that the frequency of respondents with long working hours is 77.8% (42 people), while respondents with short working hours are 22.2% (12 people).

Table 5. Distribution of Respondents based on the history of illness

Illness History	Number	%
DM	16	29.6
Arthritis	9	16.7
Fracture of the arm	1	1.9
Never	28	51.3
Total	**54**	**100.0**

Based on the table above, it can be seen that the frequency of respondents with a history of DM was 29.6% (16 people), while the respondents with a history of arthritis were 16.7% (9 people). Furthermore, the frequency of respondents for those who have no history is 51.3% (28 people).

Table 6. Distribution of Respondents by Sex

Sex	Number	%
Female	37	68.1
Male	17	31.5
Total	**54**	**100.0**

Based on the table above, it can be seen that the frequency of female respondents is 68.5% (37 people), while male respondents are 31.5% (17 people).

Table 7. Distribution of Respondents by Age

Age	Number	%
35 – 40	29	53.7
41 – 45	10	18.5
46 – 50	11	20.4
51 – 55	4	7.4
Total	**54**	**100.0**

Based on the table above, it can be seen that the frequency of respondents with an age range of 35-40 is much more, that is 53.7% (29 people), while respondents with an age range of 41-45 are 18.5% (10 people). Furthermore, the frequency of respondents for the age range 46 - 50 is 20.4% (11 people), while the respondents in the age range 51 - 55 are 7.4% (4 people).

Table 8. Distribution of Respondents based on complaints of numbness

Experiencing Numbness	Number	%
No	18	33.3
Yes	36	66.7
Total	**54**	**100.0**

Based on the table above, it can be seen that the frequency of respondents with complaints of numbness is 66.7% (36 people), while respondents with no complaints of numbness are 33.3% (18 people).

Table 9. Distribution of Respondents based on complaints of tingling sensation

Tingling Sensation	Number	%
No	24	44.4
Yes	30	55.6
Total	**54**	**100.0**

Based on the table above, it can be seen that the frequency of respondents with complaints of tingling sensation was 55.6% (30 people), while respondents with no complaints of tingling sensation were 44.4% (24 people).

Table 10. Distribution of Respondents by Complaints of Pain

Experiencing Pain	Number	%
No	21	38.9
Yes	24	61.1
Total	**54**	**100.0**

Based on the table above, it can be seen that the frequency of respondents with complaints of pain was 61.1% (24 people), while respondents with no pain complaints were 38.9% (21 people).

Table 11. Distribution of Respondents based on stretching

Stretching	Number	%
No	24	44.4
Yes	30	55.6
Total	**54**	**100.0**

Based on the table above, it can be seen that the frequency of respondents who did not do stretching was 44.4% (24 people), while the respondents who did stretching was 55.6% (30 people).

Table 12. Distribution of Respondents by Awkward Posture

Awkward Posture	Number	%
Wrist extension	16	29.6
Wrist flexion	21	38.9
Ulnar deviation	9	16.7
Radial deviation	8	14.8
Total	**54**	**100.0**

Based on the table above, it can be seen that the frequency of respondents who have an awkward wrist flexion posture is 38.9% (21 people), while respondents who have an awkward wrist flexion posture are 29.6% (16 people), the radial deviation is 14.8% (8 people), in addition to the low frequency, that is the awkward posture of ulnar deviation, there were 16.7% (9 people).

Table 13. Distribution of Respondents based on the disappearance of complaints when stretching

Complaints	Number	%
Not lost	24	44.4
is lost	30	55.6
Total	**54**	**100.0**

Based on the table above, it can be seen that the frequency of respondents who did not do stretching was 44.4% (24 people), while the respondents who did stretching was 55.6% (30 people).

Table 14. Distribution of Respondents based on Repetitive motion

Repetitive motion	Number	%
≤ 10 times / minute	6	11.1
times / minute	16	29.6
>20 times / minute	32	59.3
Total	**54**	**100.0**

Based on the table above, it can be seen that the largest frequency of respondents having repetitive motion movements > 20 times/minute is much more, which is 59.3% (32 people), and respondents who have less repetitive motion ten times/minute, which is 11.1 % (6 people).

Table 15. The relationship between the type of work and the incidence of CTS (Phalen's test) in Tailors

Type of Work	CTS (test Phalen's)				Number		*p-value*	CC
	Positive		Negative					
	N	%	N	%	N	%		
Cutting	5	55,6	4	44.4	9	100,0	0,072	0,072
Making	21	72,4	8	27,6	29	100,0		
Trimming	6	37,5	10	62,5	16	100,0		
Total	**32**	**59,3**	**22**	**25,0**	**54**	**100,0**		

Based on the table above, it can be seen that the respondents who work in the cutting section who are positive for CTS are 55.6% (5 people) and the negative are 44.4% (4 people), while the patients who work in the trimming section Positive CTS are 37.5% (6 people) and the negative CTS is 62.5% (16 people). In the Making section, respondents have a positive CTS respondent of 72.4% (21 people) and a negative CTS is 27.6% (8 people). Based on the results of the analysis using the chi-square test, the value is obtained as p-value = 0.072 (p-value > 0.05) with a contingency coefficient (CC) of 0.072. Because the p-value is more than 0.05, Ha is rejected, which means there is no relationship between the type of work and the incidence of CTS, while the close

relationship or contingency coefficient (CC) is 0.072 which is a low correlation category between the history of the disease and the incidence of CTS.

Table 16. The relationship between years of service and the incidence of CTS (Phalen's test) in Tailors

Year of Service	CTS (test phalen)				Number		*p-value*	OR
	Positive		Negative					
	N	%	N	%	N	%		
Long	9	39.1	14	60.9	23	100,0	0,010	4,472
Short	23	74.2	8	25.8	31	100,0		
Total	**32**	**59.3**	**22**	**40.7**	**54**	**100,0**		

Based on the table above, it can be seen that of the 23 level respondents with the new category of tenure, 60.9% (14 people) did not experience CTS, while 39.1% (9 people) experienced CTS. Of the 31 respondents with a long working period, 25.8% (8 people) did not experience CTS, while 74.2% (23 people) experienced CTS.

Based on the results of the analysis using the chi-square test, the p-value = 0.010 (p-value <0.05) with an odds ratio (OR) of 4.472. Because the p-value is smaller than 0.05 and Ha is therefore accepted. It means there is a relationship between years of service and the CTS incidence for tailors at the Garment Factory in north Jakarta. Meanwhile, the odds ratio indicates that the relationship between the tenure of service and the respondent's CTS is significant. This data shows that respondents with long tenures are four times more likely to experience CTS than respondents with new tenures.

Table 17. Relationship between Awkward Posture and the incidence of CTS (Phalen's test) in Tailors

Awkward posture	CTS (Phalen's test)				Number		*p-value*	CC
	Positive		Negative					
	N	%	N	%	N	%		
Wrist extension	7	43.8	9	56,2	16	100,0	0,018	0,396
Wrist flexion	15	71.4	6	28,6	21	100,0		
Ulnar deviation	8	88.9	1	11,1	9	100,0		
Radial deviation	2	25.0	6	75, 0	8	100,0		
Total	**32**	**59,3**	**22**	**40,7**	**54**	**100,0**		

Based on the table above, it can be seen that of the 16 respondents who performed awkward postures, that is wrist extension, 56.2% (9 people) did not experience CTS, while 43.8% (7 people) had CTS. Of the 21 respondents who performed awkward postures, that is wrist flexion, 28.6% (6 people) did not experience CTS, while 71.4 (15 people) had CTS. Of the nine respondents who had an odd posture, that is ulnar deviation, 11.1% (1 person) did not experience CTS, while 88.9% (8 people) had CTS. Of the eight respondents who had an awkward posture with radial deviation, 75.0% (6 people) did not experience CTS, while 25.0% (2 people) had CTS.

Based on the results of the analysis using the chi-square test, the p-value = 0.018 (p-value <0.05) with a contingency coefficient (CC) of 0.396. Because the p-value is smaller than 0.05 and then, Ha is accepted. It means that there is a relationship between awkward posture and the incidence of CTS for tailors at the Garment Factory area. Meanwhile, the close relationship or contingency coefficient (CC) is 0.396 which is a low correlation category, between the length of time doing awkward postures and the incidence of CTS.

Table 18. Relationship between Repetitive motion and the incidence of CTS (Phalen's test) in Tailors

Repetitive motion	CTS (test Phalen's)				Number		*p-value*	CC
	Positive		Negative					
	N	%	N	%	n	%		
< 10 times/minute	2	33,3	4	66,7	6	100,0	0,017	0,361
11- 20 times/minute	6	37,5	10	62,5	16	100,0		
>20 times/minute	24	75,0	8	25, 0	32	100,0		
Total	**32**	**59,3**	**22**	**40,7**	**54**	**100,0**		

Based on the table above, it can be seen that of the 6 respondents with repetitive motion < 10 times/minute, 33.3% (2 people) had CTS, while 66.7% (4 people) did not. Of the 16 respondents with repetitive motion 11-20 times/ minute, 37.5% (6 people) had CTS, while 62.5% (10 people) did not. Of the 32 respondents with repetitive motion >20 times/minute, 25.0% (8 people) did not experience CTS, while 75.0% (24 people) had CTS.

Based on the results of the analysis using the chi-square test, the p-value = 0.017 (p-value <0.05) with a contingency coefficient (CC) of 0.361. Because the p-value is smaller than 0.05, and then Ha is accepted. It means that there is a relationship between repetitive motion and the incidence of CTS for tailors at the Garment Factory area. Meanwhile, the closeness of the relationship or the contingency coefficient (CC) is 0.361 which is a low correlation category between repetitive motion and the incidence of CTS.

The results of research on tailors in the Garment Factory area, Jakarta, which was carried out in December 2018 with 54 respondents, showed that the 32 (59.3%) respondents were positive suffered from CTS and 22 respondents (40.7%) were negative. It was determined using the Phalen test. Where it is known that the Phalen test is a provocation test that can be used to detect CTS quickly and easily, this test has a sensitivity of 71% and a specificity level of 80% [11].

The frequency of the occurrence of CTS symptoms, such as numbness, tingling, and pain was 66.7% of numbness (36 positive people) and 33.3% (18 people) did not feel numb. In pain, it was 61.1% (24 people), while respondents with no pain complaints were 38.9% (21 people) that the frequency of respondents who do not do stretching is 44.4% (24 people), while the respondents who do stretching is 55.6% (30 people).

The results of this study are different from Rovita Novitriani's research on Computer Operators in the Secretariat Section at the Inspectorate General of the Ministry of Public Works in 2012, showing that the complaints most felt by respondents were tingling 46.1%, then tingling and numbness 8.8%, numbness 6.9%, tingling, and pain as much as 3.9%, who feel all three are as much as 2%. The least is pain, only 1% [12].

The frequency of CTS occurrence was based on the type of work such as Cutting, Making, and Trimming showing that making has a greater risk of getting CTS than cutting and trimming. The respondents in the Making section had CTS, is 72.4% (21 people), and those who had no CTS were 27.6% (8 people). The results of this study are in accordance with Yunus, Hasbie, and Tami on Garment workers, showing that working in sewing units is riskier than other parts. It is related to the number of hand movements while working [13].

The results of this analysis show that tenure is associated with the occurrence of CTS. In this study, the years of service of tailors were divided into two groups, that is the old work period (≥ 5 years) and the new work period (< 5 years). Based on the analysis, it was found that the old working period had a risk of 4 times (OR = 4,472) more at risk of developing CTS compared to the new work period. Where of the 31 respondents who had a long working period (≥ 5 years) found, 23 (74.2%) respondents had positive CTS, and 8 (25.8%) respondents had negative CTS. This study accordance with Ninik Wulandari's research on 30 chili pickers, showing that respondents with a tenure of more than seven years have a 17 times higher risk than those with a tenure of fewer than seven years [14].

Based on the analysis results, awkward posture is precarious for the occurrence of carpal tunnel syndrome. In the study, it was found that of 16 respondents who performed awkward postures, that is wrist extension, 56.2% (9 people) did not experience CTS, while 43.8% (7 people) had CTS. Of the 21

respondents who performed awkward postures, that is wrist flexion, 28.6% (6 people) did not experience CTS, while 71.4 (15 people) had CTS. Of the nine respondents who had an odd posture, that is ulnar deviation, 11.1% (1 person) did not experience CTS, while 88.9% (8 people) had CTS. Of the eight respondents who had an awkward posture with radial deviation, 75.0% (6 people) did not experience CTS, while 25.0% (2 people) had CTS. These results accord with the statement expressed by Barcelona that awkward postures indicate a four times greater risk for the occurrence of CTS. Based on the theory expressed by Buckle, which describes the mechanism of the occurrence of CTS is the tension and compression of the median nerve at the wrist when the wrist is in an extreme position [15].

This analysis shows that repetitive motion has a relationship with the occurrence of CTS, with a p-value of 0.017 < (0.05). The frequency of repetitive motion in the most significant respondent was > 20 times/minute for as many as 32 respondents. Of the 32 respondents who were positive for CTS, there were 24 respondents, and among those who were negative for CTS were eight respondents. Accordance to Tirsa Irani's research on sewing workers at PT Dan Liris Sukaharjo, the study results showed that the number of repetitive motions having 15 - 26 times per minute could cause CTS [16].

CONCLUSION

Based on research on "How is the relationship between the type of work and the incidence of CTS in the Garment Factory area" with 54 respondents, the results showed that types of work did not correlate with complaints of CTS (p = 0.72), but repetitive movements correlated with complaints of CTS (p = 0.017) and that the awkward posture of hands correlated with CTS complaints (p = 0.018).

Furthermore, it is hoped that further research will be carried out on the work environment, length of working hours, age, and gender, of CTS incidence.

Acknowledgement: None
Conflict of Interest: None
Source of Funding: None
Ethical Approval: Approved

REFERENCES

1. Abernathy FH, Volpe A, Weil D. The future of the apparel and textile industries: prospects and choices for public and private actors. Environment and Planning A. 2006 Dec;38(12):2207-32.
2. Djibu R, Shofwan I. Development training model mentoring Garment Factory sewing in improving assistant competence. JPPM (Journal of Education and Community Empowerment). 2019;6(2):131-9.
3. Hughes P, Ferrett E. Introduction to health and safety at work. Routledge; 2011 Dec 31.
4. Cox R, Lippel K. Falling through the legal cracks: the pitfalls of using workers compensation data as indicators of work-related injuries and illnesses. Policy and practice in health and safety. 2008 Jan 1;6(2):9-30.
5. Data P, Ministry of RI Information. Occupational Health Situation. 2015.
6. Szeszenia-Dąbrowska N, Świątkowska B, Wilczyńska U. Occupational diseases among farmers in Poland. Medycynapracy. 2016;67.
7. Takala J, Urrutia M, Hämäläinen P, Saarela KL. Global and European work environment—numbers, trends, and strategies. Scandinavian journal of work, environment & health. 2009 Jan 1;35:15.
8. Nourollahi M, Afshari D, Dianat I. Awkward trunk postures and their relationship with low back pain in hospital nurses. Work. 2018 Jan 1;59(3):317-23.
9. Kelceoglu B. *Preventing carpal tunnel syndrome: a product design study to assist carpal tunnel syndrome prevention techniques* (Doctoral dissertation, The Ohio State University).
10. Blueberry AI. Determinants of carpal tunnel syndrome (CTS) symptoms in stone crusher workers (study on stone crusher workers in Sumbersari and Sukowono sub-districts, Jember district). 2016.
11. Bouche P. Peripheral Nerve Disorders: Chapter 19. Compression and entrapment neuropathies. Elsevier Inc. Chapters; 2013 Aug 17.

12. Fitriani RN. Factors Associated with Alleged Carpal Tunnel Syndrome (CTS) in Computer Operators in the Secretariat Section at the Inspectorate General of the Ministry of Public Works in 2012.
13. Yunus M, Hasbie NF, Tami GR. The relationship between tenure and work attitude with the incidence of carpal tunnel syndrome in cracker-making workers in the ahak cracker-making industry, Sungailiat District, Bangka Belitung Province in 2016. JurnalIlmuKedokterandanKesehatan. 2016;3(3).
14. WulandariNn. Relationship of Age, Working Period, BMI and Frequency of Repetitive Movements with the Incidence of Carpal Tunnel Syndrome (Study of Chili Stem Picking Workers). Essay. 2016 Oct 13.
15. Vignais N, Weresch J, Keir PJ. Posture and loading in the pathomechanics of carpal tunnel syndrome: a review. Critical Reviews™ in Biomedical Engineering. 2016;44(5).
16. Iriani T. Relation of Repetitive Motion with Complaints of Carpal Tunnel Syndrome in Sewing Workers in the Garment Factory Section of PT Dan LirisSukoharjo Surakarta. Solo: Occupational Health and Safety, Faculty of Medicine, UNS. 2010.

How to cite this article: Yunita R. M. B. Sitompul. The relationship between types of workers and incidence of carpal tunnel syndrome in tailors at the garment factory North Jakarta. *Int J Health Sci Res*. 2022; 12(5):282-289. DOI: *https://doi.org/10.52403/ijhsr.20220529*

******

The Relationship between Types of Workers and Incidence of Carpal Tunnel Syndrome in Tailors at the Garment Factory North Jakarta

ORIGINALITY REPORT

21%	21%	2%	5%
SIMILARITY INDEX	INTERNET SOURCES	PUBLICATIONS	STUDENT PAPERS

PRIMARY SOURCES

1	www.doabooks.org Internet Source	5%
2	ijhsr.org Internet Source	5%
3	repository.uki.ac.id Internet Source	3%
4	Submitted to Institute of Technology, Sligo Student Paper	2%
5	oamjms.eu Internet Source	2%
6	repositorii.urindo.ac.id Internet Source	2%
7	www.journal.ppnijateng.org Internet Source	1%
8	M Fahlevi. "Corporate branding in banking environment: Evidence from acquisition	1%

process", IOP Conference Series: Earth and Environmental Science, 2021
Publication

9	scitepress.org Internet Source	1 %

Exclude quotes	On	Exclude matches	< 1%
Exclude bibliography	On		