An isometric illustration on a light purple background. A large tablet computer is the central focus, displaying a graduation cap and a globe. A woman in a blue tank top and red shorts stands on the tablet, holding a ladder. Below the tablet, a man in a blue suit stands holding a tablet. To the left, two people are seated at a white table with laptops. To the right, a person is lying on a blue and white couch. The scene is surrounded by various educational icons like a globe, a pyramid, and a laptop.

**The effects of home-based PBS through  
tele-coaching for students' with  
developmental disabilities**

**Surnhee Lee, Eunhee Paik**

**Dept. of Special Education**

**Kongju National University**

이미지출처: <https://www.anques.com/telecoaching-platforms-for-freelance-tutors/>

# Limitation in behavioral approach

## 1) Maintenance, Generalization(Snell et al., 2005)

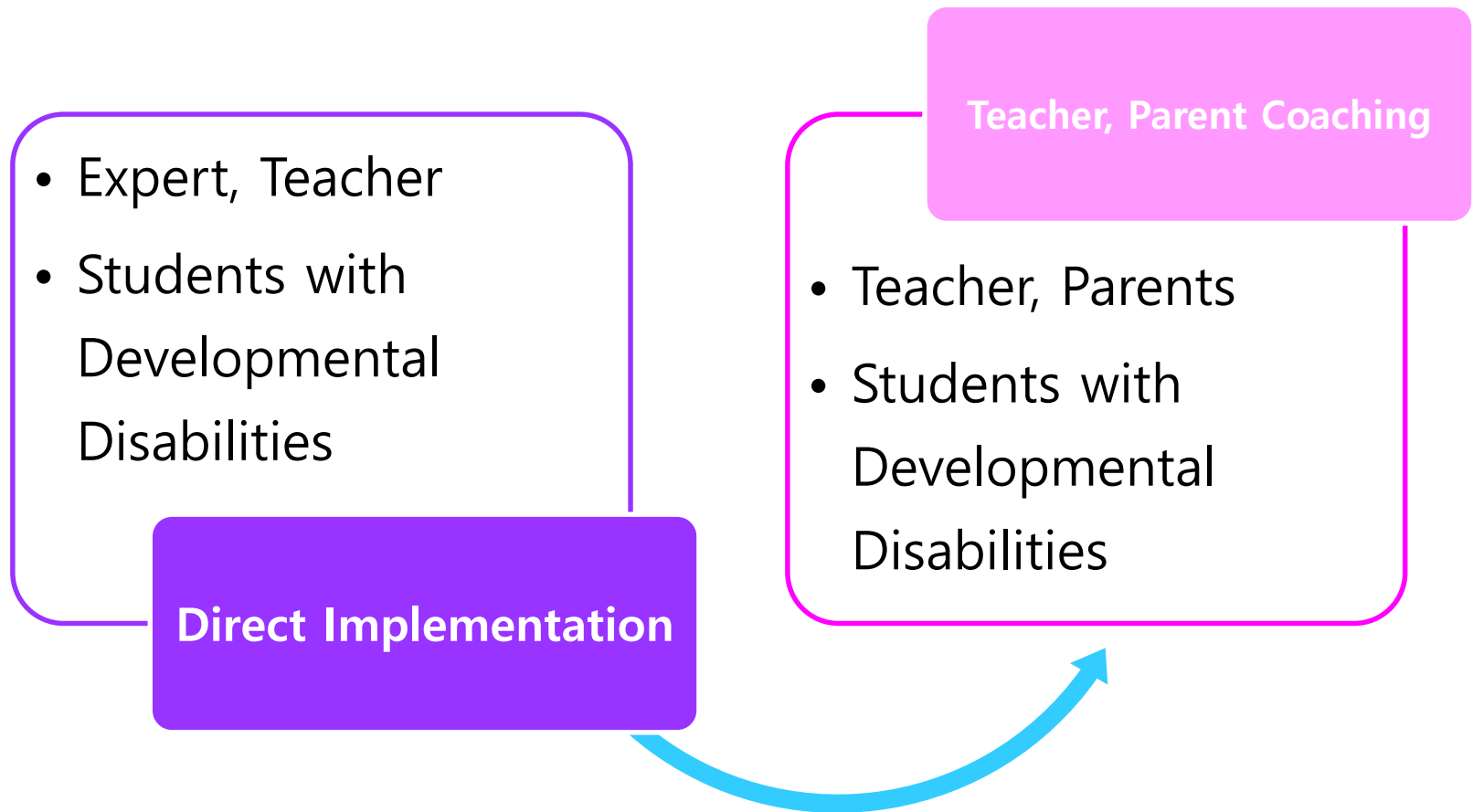
- ① Escape/avoidance
- ② Prompt-dependence
- ③ Maintenance
- ④ Generalization

# What is Tele coaching?

- a) Service Delivery Model (Wainer & Ingersoll, 2013)
- b) 홈 CCTV, videoconferencing, computerized software zoom programs 사용(Vismara et al., 2013)
- c) Remote training  
(Gibson et al., 2010; Suess et al., 2014; Vismara et al., 2009)



# Tele coaching



# Tele coaching



이미지 출처 : <https://news.unair.ac.id/2021/09/27/luaran-intervensi-telecoaching-yang-dipimpin-perawat-untuk-pasien-dengan-gagal-jantung/?lang=id>

## 1) Pros

a) Teacher, Parents Active participation

b) Ecological Validity:

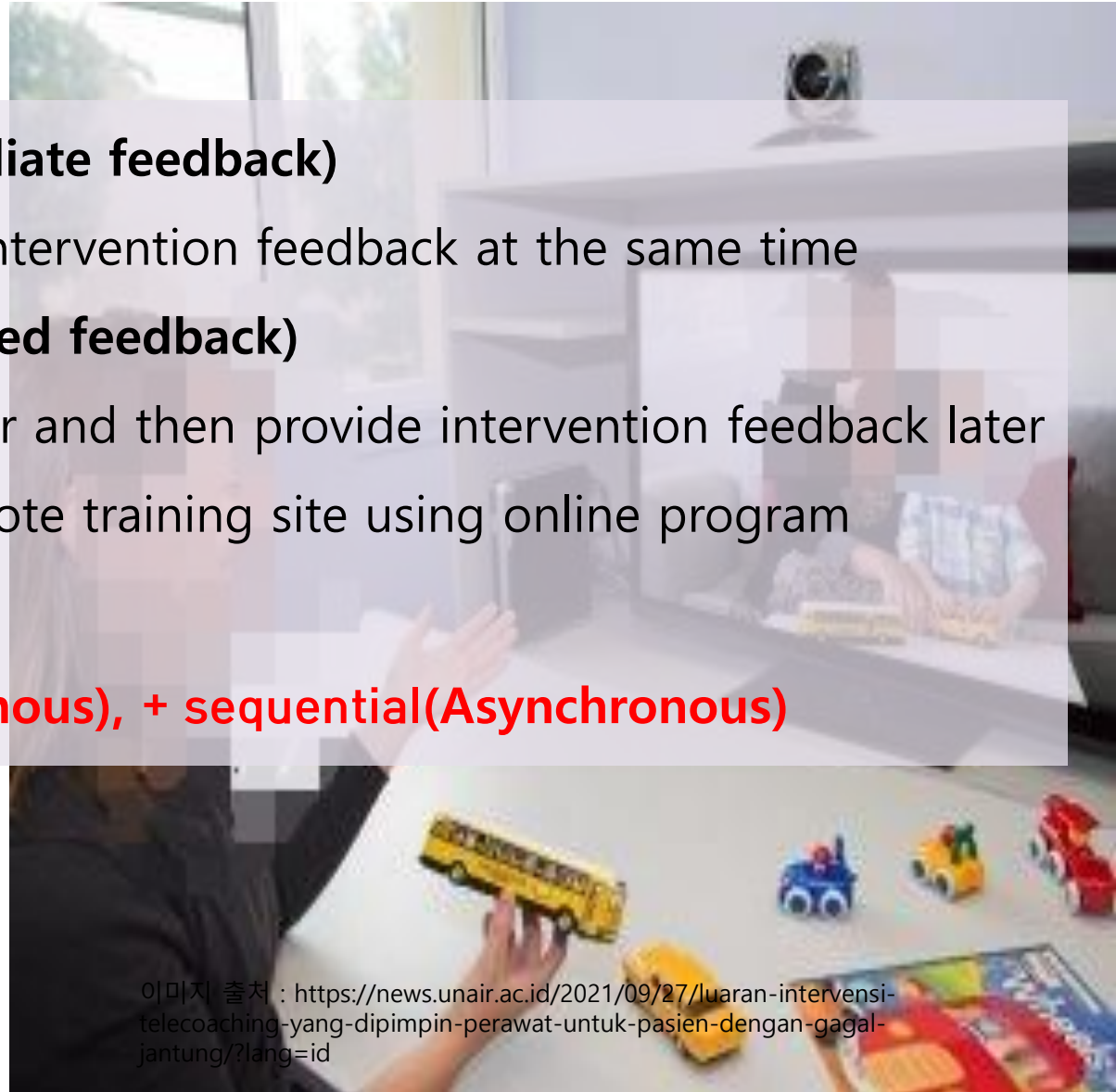
Natural Environment

- Training & Coaching in Convenient Time

c) Focus on Rutin, prompt generalization

d) Economy, Lack of Personell

# Tele coaching -Feedback



## 1. (Synchronous), (Immediate feedback)

- Observe then provide intervention feedback at the same time

## 2. (Asynchronous), (Delayed feedback)

- Watching the video later and then provide intervention feedback later
  - Learning through remote training site using online program

## 3. (Mixed feedback)

- simultaneous **(Synchronous)**, + sequential **(Asynchronous)**

# Research Question

- 1. How does the home-based positive behavior support through tele-coaching affect the aggressive behavior of adolescents with developmental disabilities?**
- 2. How does the home-based positive behavior support through tele-coaching affect mothers parenting stress and self-efficacy of adolescents with developmental disabilities?**

# Method

## ■ Participants

	CA	Eyberg	K-SIB-R <sup>2)</sup>		
			SA	GMI <sup>1)</sup>	Support level
A	16.3	심도 점수 179 문제행동 수 26	6.2	Very severe(-45)	frequent(47)
B	17.4	심도 점수 128 문제행동 수 14	6.7	severe(-33)	limited(69)
C	19.7	심도 점수 149 문제행동 수 19	13.4	boderline(-23)	Intermitant (79)



team		role
School personell	Prime teacher	<ul style="list-style-type: none"> <li>• Subject selection and administrative support</li> <li>• Interagency cooperation</li> </ul>
Behavior Intervention Specialist	BCBA	<ul style="list-style-type: none"> <li>• FBA, BSP,</li> <li>• coaching</li> </ul>
Teachers	A	<ul style="list-style-type: none"> <li>• Genelalization data collection at school</li> </ul>
	B	
	C	
Parents	A	<ul style="list-style-type: none"> <li>• Intervention at home</li> </ul>
	B	
	C	

# Operational definition of aggressive behavior

	Category	Defined
A	Throwing objects	타인을 향해 책, 리모콘, 병 등 주위에 있는 물건을 던진다.
	Pinch	자신의 손으로 타인을 멍이 들거나 피부가 벗겨질 정도로 비튼다.
	Hitting	울면서 타인의 신체를 때린다.
B	Pinch	엄마의 허벅지나 팔뚝을 멍이 들 정도로 비튼다.
	Yelling	원하는 것이 있거나 하기 싫을 때 고성을 지른다.
	Hair pulling	엄마가 다른 일을 하고 있거나 원하는 것이 있을 때 엄마의 머리를 잡아 뜯는다.
C	yelling	또래나 성인에게 '아이 씨X' 욕을 한다.
	Wristle twisting	타인의 손목을 잡고 뒤로 젖히며 꺾는다.
	Slap own face	자신이 원하는 물건이나 활동을 못하게 제지하면 자신의 손바닥

# Behavior Support Plan

	Background strategy	Antecedent strategy	Alternative Strategy	Consequent Strategy
A	<ul style="list-style-type: none"> <li>·일과표 거실에 게시</li> <li>·아버지에게 별 자극 제거 요청</li> <li>·하교 후 가정에서 어머니가 간식 준비</li> </ul>	<ul style="list-style-type: none"> <li>· (NCR)</li> <li>·시각적 단서이용 변별학습</li> </ul>	<ul style="list-style-type: none"> <li>· (FCT)</li> <li>·기다리기</li> <li>·대체행동교수</li> <li>·모델링과 촉구를 통한 행동형성</li> </ul>	<ul style="list-style-type: none"> <li>·토큰 경제: 칭찬강화 판에 스티커 모으기</li> <li>·차별강화</li> <li>·문제행동 시 반응최소화</li> <li>·공격행동 시 타임어웨이</li> </ul>
B	<ul style="list-style-type: none"> <li>·일과표 거실에 게시</li> <li>·어머니에게 별 자극 제거 요청</li> <li>·과제의 난이도 및 양 조절</li> <li>·체형교정 의자</li> <li>·시각적 단서 게시</li> <li>·<b>Contingency Map</b></li> </ul>	<ul style="list-style-type: none"> <li>·(NCR)</li> <li>·If Then 카드사용</li> <li>·시각적 단서 이용 변별학습</li> </ul>	<ul style="list-style-type: none"> <li>· (FCT)</li> <li>·지시 따르기 훈련</li> <li>·대체행동 교수</li> <li>·모델링과 촉구를 통한 바람직한 행동 형성</li> </ul>	<ul style="list-style-type: none"> <li>·토큰 경제: 칭찬강화판에 스티커 모으기</li> <li>·차별강화</li> <li>·문제행동 시 반응 최소화</li> </ul>
C	<ul style="list-style-type: none"> <li>·일과표 거실에 게시</li> <li>·하교 후 가정에서 어머니가 간식 준비</li> <li>·어머니에게 별 자극 제거 요청</li> <li>·<b>즐거운 활동 준비(AO)</b></li> </ul>	<ul style="list-style-type: none"> <li>·(NCR)</li> <li>·활동 선택하기</li> </ul>	<ul style="list-style-type: none"> <li>· (FCT)</li> <li>·인내하기 교수</li> <li>·대체행동 교수</li> <li>·모델링과 촉구를 통한 행동형성</li> </ul>	<ul style="list-style-type: none"> <li>·토큰 경제: 칭찬강화판에 스티커 모으기</li> <li>·공격행동 시 타임어웨이(Time Away)</li> <li>·차별강화</li> <li>·문제행동 시 반응 최소화</li> </ul>

# Data Collection

## 1. Direct observation

- Aggressive behavior: 10-sec partial interval

## 2. Indirect evaluation

Parenting stress : Lee, et al.(2008) (Korean version of parenting stress index-short form : K-PSI-SF)

② Parenting Self-Efficacy: Parenting self-efficacy Liguert Scale: Cho & Lee(2007)

- Visual Analysis
- Effect Size: (Improvement Rate Difference; IRD). Tau-U

# Results

- Percentage of Mean Occurrence in aggressive behavior(%)

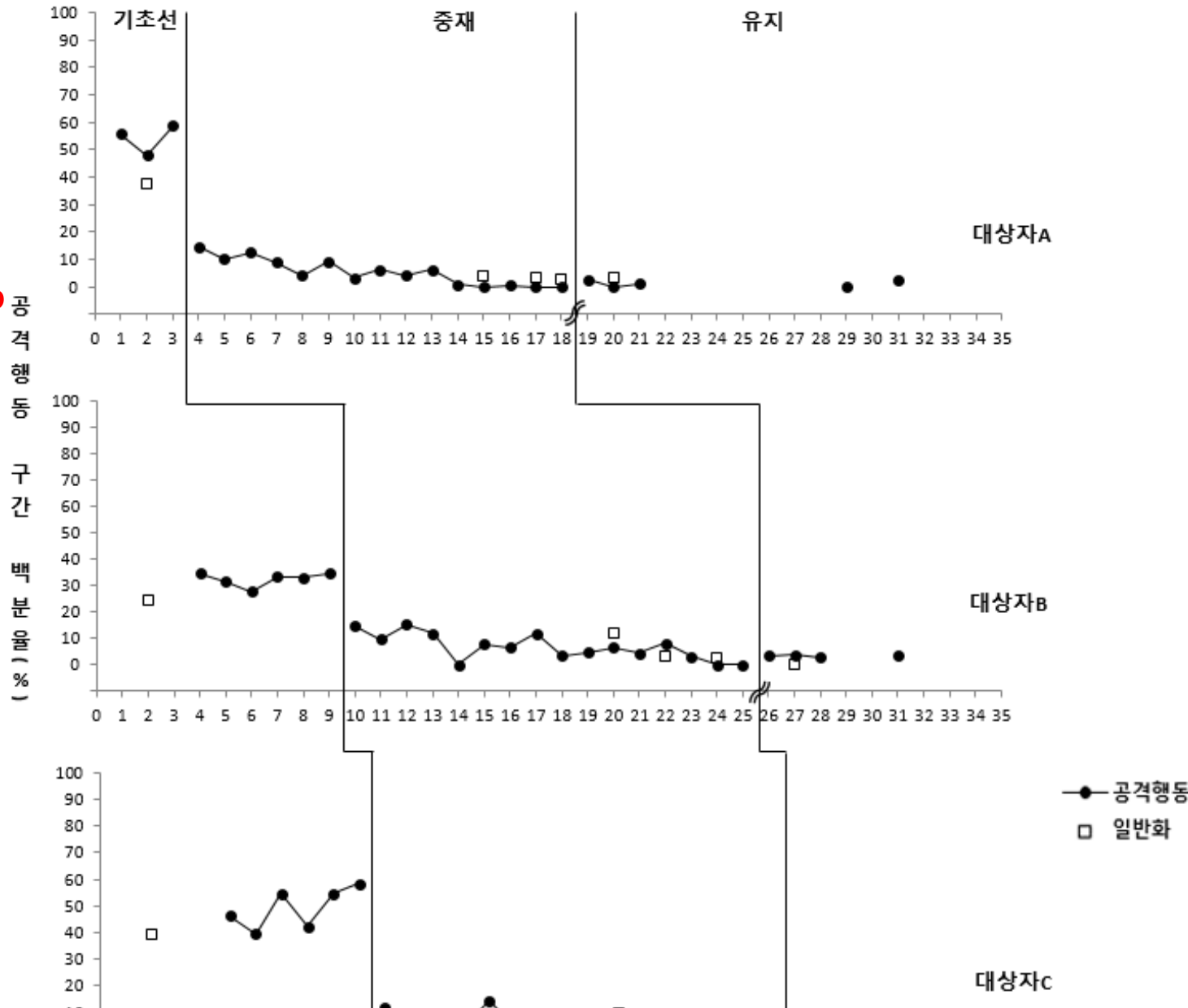
	Baseline		Intervention		Maintenance	
	평균	(scope)	평균	(scope)	평균	(scope)
A	54.2	47.9-58.8	5.4	0-14.5	1.9	0-3.5
B	32.4	27.5-34.5	6.6	0-14.5	3.2	2.5-3.5
C	49.8	39.5-58.3	3.6	0-14.5	0.8	2.5-2.5

- 대상자 별 공격행동 일반화 발생율(%)

	Baseline		Intervention		Maintenance	
	평균	(scope)	평균	(scope)	평균	(scope)
A	37.5	-	3.3	2.5-4.2	3.3	-
B	24.1	-	5.8	2.5-11.7	0	-

# Aggressive Behavior

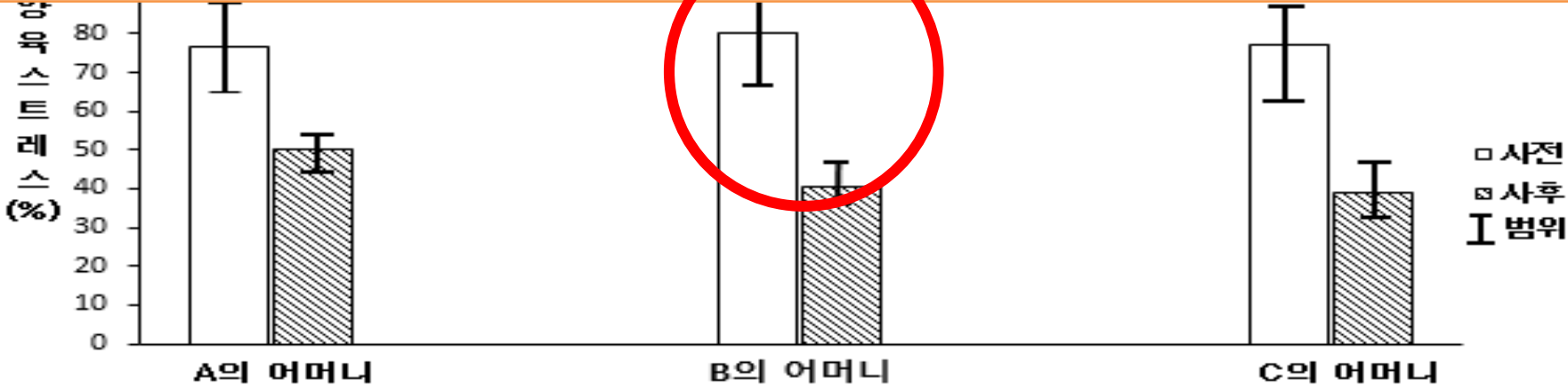
- IRD : 100%
- Tau-U : -1



# Result: Parenting Stress

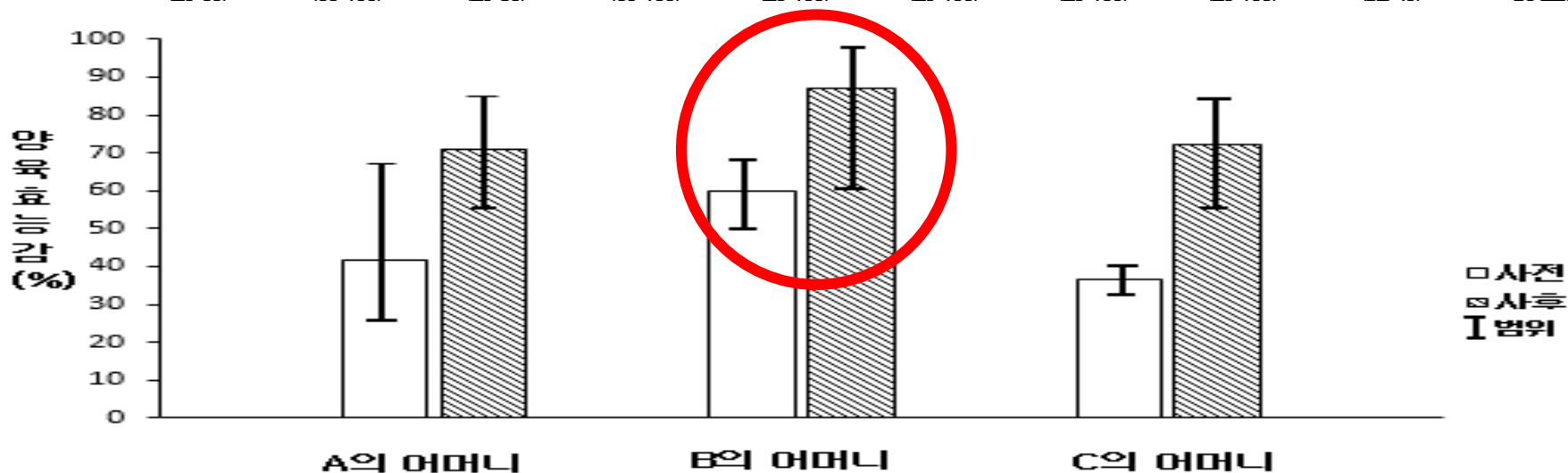
▪

Sub Domain/ Mother	Pain		mulfunctional interaction		Difficult child		total	
	pre M (scope)	post M (scope)	pre M (scope)	post M (scope)	pre M (scope)	post M (scope)	pre M (scope)	post M (scope)
A	86.7 (60-100)	53.3 (40-60)	63.3 (40-100)	46.7 (20-60)	75 (80-100)	50 (20-100)	76.7 (63.3-86.7)	50 (46.7-53.3)
B	95 (80-100)	40 (20-60)	68.3 (40-100)	45 (20-60)	83.3 (80-100)	36.7 (20-80)	80 (68.3-95)	40.6 (36.7-45)
C	86.7 (80-100)	46.7 (20-80)	66.7 (40-100)	38.7 (20-60)	78.3 (60-100)	31.7 (20-100)	77.2 (66.7-86.7)	38.9 (31.7-46.7)



# Parenting Self-Efficacy

mother	communication		education		Overall parenting Self-efficacy		controllability		total	
	pre	post	pre	post	pre	post	pre	post	pre	post
	M	M	M	M	M	M	M	M	M	M
	(scope)	(scope)	(scope)	(scope)	(scope)	(scope)	(scope)	(scope)	(scope)	(scope)
A	25 (20-40)	85 (40-80)	275 (20-40)	675 (20-100)	64 (20-100)	68 (40-100)	68 (20-100)	56 (20-80)	415 (25-68)	708 (56-85)
B	50 (20-100)	925 (80-100)	65 (60-80)	975 (80-100)	68 (20-100)	88 (40-100)	60 (40-80)	60 (40-100)	60 (50-68)	889 (60-975)
C	375 (20-60)	825 (60-100)	375 (20-80)	725 (60-100)	32 (20-100)	56 (20-100)	32 (20-100)	56 (20-100)	368 (32-40)	723 (56-825)





# Conclusion

**1. The positive behavior support intervention through tele-coaching was effective reducing aggressive behavior of adolescents with developmental disabilities. The effects of positive behavior support intervention was maintained, after two weeks later of intervention. The results were generalized to the school classroom.**

**2. Mothers' parenting stress has reduced, parenting self-efficacy has improved after home-based positive behavior support intervention through tele-coaching.**

**In conclusion, it was suggested that home-based positive behavior support through tele-coaching was effective for aggressive behavior of adolescents with developmental disabilities**

# References

- 이선희(2022). 텔레코칭을 통한 가정기반 긍정적 행동지원이 발달장애청소년의 공격행동과 어머니의 양육스트레스 및 양육효능감에 미치는 영향. 박사학위논문, 공주대학교 대학원, 충남.
- Brereton, A. V., Tonge, B. J., & Einfeld, S. L. (2006). Psychopathology in children and adolescents with autism compared to young people with intellectual disability. *Journal of autism and developmental disorders*, 36(7), 863-870.
- Hartley, S. L. (2008). Prevalence and risk factors of maladaptive behaviour in young children with Autistic Disorder. *Journal of Intellectual Disability Research*, 52(10), 819-829.
- Gibson, D. G., Glass, J. I., Lartigue, C., Noskov, V. N., Chuang, R. Y., Algire, M. A., ... & Venter, J. C. (2010). Creation of a bacterial cell controlled by a chemically synthesized genome. *science*, 329(5987), 52-56.
- Snell Jr, W. E., Overbey, G. A., & Brewer, A. L. (2005). Parenting perfectionism and the parenting role. *Personality and Individual Differences*, 39(3), 613-624.
- Suess, A. N., Romani, P. W., Wacker, D. P., Dyson, S. M., Kuhle, J. L., Lee, J. F., & Waldron, D. B. (2014). Evaluating the treatment fidelity of parents who conduct in-home functional communication training with coaching via telehealth. *Journal of Behavioral Education*, 23(1), 34-59.
- Vismara, L. A., Young, G. S., Stahmer, A. C., Griffith, E. M., & Rogers, S. J. (2009). Dissemination of evidence-based practice: Can we train therapists from a distance?. *Journal of autism and developmental disorders*, 39(12), 1636-1651.
- Vismara, L. A., McCormick, C., Young, G. S., Nadhan, A., & Monlux, K. (2013). Preliminary findings of a telehealth approach to parent training in autism. *Journal of autism and developmental disorders*, 43(12), 2953-2969.
- Wacker, D. P., Lee, J. F., Padilla Dalmau, Y. C., Kopelman, T. G., Lindgren, S. D., Kuhle, J., & Waldron, D. B. (2013). Conducting functional communication training via telehealth to reduce the problem behavior of young children with autism. *Journal of developmental and physical disabilities*, 25(1), 35-48.

# Q & A

