OPUS ▶

Volume 21, Issue – 4

OPUS▶

Issue – 4, 2024

Content

Editorial

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RESEARCH ARTICLE

Comparison of Cognitive Flexibility and Resilience Levels in Mothers of Children with Specific Learning Disability, Autism Spectrum Disorder, and Normal Development

Mürüvvet Aydemir[1] I Gözde Önal[2]

[1] Research Assist, Ankara Medipol University, Health Science Faculty, Ankara/Türkiye
ORCID: 0000-0001-7282-770X
E-Mail: muruvvet.aydemir@ankaramedipol.edu.tr

[2] Assist Prof, Ankara Medipol University, Health Science Faculty, Ankara//Türkiye
ORCID: 0000-0002-6656-965X
E-Mail: gozde.onal@ankaramedipol.edu.tr

Corresponding Author:
Gözde Önal

Abstract

This cross-sectional study compared the cognitive flexibility and resilience of mothers with children having specific learning disabilities (SLD), autism spectrum disorder (ASD), and normal development (ND). The sample comprised 87 mothers (29 in each group). Data were collected using the "Sociodemographic Information Form", "Cognitive Flexibility Inventory", and "Resilience Scale for Adults". Significant differences were found in cognitive flexibility and resilience among the three groups. Mothers of children with ASD had significantly lower cognitive flexibility scores than those with SLD and ND. In terms of resilience, mothers of children with ASD scored lower than mothers of ND children but did not differ significantly from mothers of SLD children. No significant difference was observed in cognitive flexibility and resilience between mothers of children with SLD and those with ND. The study results indicate that mothers of children with ASD are at risk in terms of cognitive flexibility and resilience, highlighting the need for psychosocial intervention programs for these mothers. Although mothers of children with SLD appear to be psychologically stronger compared to mothers of children with ASD, more detailed research on the subject is necessary.

Keywords: *Cognitive flexibility, resilience, autism, spesific learning disability, mother.*

Öz

Bu kesitsel çalışmada, özgül öğrenme güçlüğü (ÖÖG), otizm spektrum bozukluğu (OSB) ve normal gelişim gösteren (NG) çocukların annelerinin bilişsel esneklik ve psikolojik sağlamlık düzeyleri karşılaştırılmıştır. Örneklem, her grupta 29 anne olmak üzere toplam 87 anneden oluşmuştur. Veriler "Sosyodemografik Bilgi Formu", "Bilişsel Esneklik Envanteri" ve "Yetişkinler için Psikolojik Sağlamlık Ölçeği" kullanılarak toplanmıştır. Üç grup arasında bilişsel esneklik ve psikolojik sağlamlık açısından anlamlı farklılıklar bulunmuştur. OSB'li çocukların annelerinin, ÖÖG'li ve TG çocukların annelerine göre anlamlı derecede daha düşük bilişsel esneklik puanlarına sahip olduğu görülmüştür. Psikolojik sağlamlık açısından, OSB'li çocukların anneleri, TG çocukların annelerine göre daha düşük puan almış, ancak ÖÖG'li çocukların anneleriyle anlamlı bir fark göstermemiştir. ÖÖG'li çocukların anneleri ile TG çocukların anneleri arasında bilişsel esneklik ve psikolojik sağlamlık açısından anlamlı bir fark gözlenmemiştir. Çalışma sonucu, bilişsel esneklik ve psikolojik sağlamlık açısından OSB'li çocukların annelerinin risk altında olduğunu ve anneler için psikososyal müdahale programlarının gerekliliğini göstermiştir. ÖÖG'ye sahip çocukların anneleri OSB'li çocukların annelerine kıyasla psikolojik anlamda daha güçlü görünmesine rağmen konu ile ilgili daha detaylı araştırmalar gerekmektedir.

Anahtar Kelimeler: *Bilişsel esneklik, psikolojik sağlamlık, otizm, özgül öğrenme güçlüğü, anne.*

Introduction

Specific Learning Disability (SLD) is a term that manifests delays or impairments in the acquisition and use of speech, reading, writing, comprehension, or arithmetic skills (American Psychiatric Association, 2013). SLD is classified into four types: dyslexia, dysgraphia, dyscalculia, and dyspraxia, according to the Diagnostic and Statistical Manual of Mental Disorders, fifth edition (DSM-5). It is characterized by symptoms such as slow reading, difficulty in reading comprehension, numerical perception difficulties, and difficulty in executive functions persisting for at least 6 months (Aksoy, 2019; McDowell, 2018). Children with SLD also face challenges in written expression, such as dysgraphia, which includes poor handwriting, difficulty organizing thoughts on paper, and trouble with spelling and grammar (McDowell, 2018). These difficulties extend beyond academics, often impacting children's social interactions, self-esteem, and daily functioning, leading to significant distress within families (Khan & Humtsoe, 2016). The broad range of issues associated with SLD underscores the need for comprehensive support that addresses both educational and emotional needs of children and their families.

Autism Spectrum Disorder (ASD), on the other hand, is a lifelong neurodevelopmental disorder characterized by deficits in social skills, language impairments, and the presence of restricted interests and behaviors in the early childhood (American Psychiatric Association, 2013). According to DSM-5, ASD symptoms are categorized into two main groups: Group A includes social-emotional limitations, nonverbal communication challenges, and difficulties in initiating and sustaining peer relationships; Group B compasses repetitive motor movements, insistence on sameness, restricted interests, and atypical sensory responses (Yılmaz, 2019). These symptoms have destructive effects on both the child and the family, requiring comprehensive support for both (Khan & Humtsoe, 2016).

The birth of a child with conditions such as SLD and ASD, or the realization of a disability, frequently gives rise to a complex psychological state within families, resulting in elevated levels of stress among parents (Demiray, 2019; Hassamancıoğlu et al., 2020). Additionally, various changes occur in the family structure, including financial needs, the need for information, self-confidence needs, the need for love and socialization, increased needs in daily life, and childcare (Demiray, 2019). Studies indicate that parents of children with SLD and ASD experience high levels of anxiety and depression, with negative impacts on executive functions, well-being, and quality of life (Abbeduto et al., 2004; Al-Oran & Khuan, 2021; Alsa et al., 2021; Atılgan & Kolburan, 2019; Khan & Humtsoe, 2016; Musa, 2022).

Usually, mothers are the primary caregivers of children (Benderix et al., 2006). Therefore, having a child with special needs particularly leads to more stress and pressure on mothers, significantly affecting their physical, mental, and psychological health (Kiani et al., 2022; Narimani et al., 2007; Tajeri & Bahiraei, 2008). Furthermore, mothers of children with ASD and SLD frequently encounter numerous challenges in their daily lives, such as managing behavioral issues, coping with social stigma, balancing therapy appointments, and handling educational needs, which can result in a decline in cognitive flexibility and resilience skills (Abbeduto et al., 2004; Acar, 2018; Fırat, 2022; Albaş, 2023).

Cognitive flexibility is defined as the ability to generate alternative solutions in different situations (Burke et al., 2006; Silver et al., 2004). Studies indicate that mothers' cognitive flexibility directly influences the development of children's social skills and the reduction of problem behaviors. Additionally, it is noted that in cognitively flexible mothers, children exhibit less hostility, establish better relationships, and have higher communication skills (Anderson, 1998; Chesebro & Martin, 2003; Curran & Andersen, 2017; Curran, 2018). Studies examining the levels of cognitive flexibility in mothers of children with special needs in the literature suggest that their mental and psychological well-being is negatively affected, and their levels of cognitive flexibility are lower than those of parents of children with normal development (ND) (Riskind & Alloy, 2006;

Hisoğlu, 2018; Musa, 2022; Shahabi et al., 2020). Research indicates that with increased anxiety and stress levels in mothers of children diagnosed with SLD and ASD, cognitive flexibility decreases, and resilience is also negatively affected (Dennis & Vander Wal, 2010; Fırat, 2022; Ruiz-Robledillo et al., 2014; Albaş, 2023; Atılgan & Kolburan, 2019). Therefore, enhancing resilience is crucial for these mothers to cope effectively with the challenges they face.

Resilience is defined as the ability to adapt to challenging situations and thus to maintain or regain mental health (Wagnild & Young, 1993; Zautra, 2009). Individuals with high resilience can more easily maintain their daily lives in situations of intense stress or illness, which is crucial for the daily lives of children diagnosed with SLD and ASD and their mothers (Tekinarslan & Tok, 2023).

Upon examining the relevant studies in the literature, it is observed that there are limited studies regarding families of children with special needs. In a previous study comparing the levels of resilience and cognitive flexibility in mothers of children diagnosed with intellectual disabilities (ID) and SLD, it was found that these skills were lower in families with children with special needs (Fırat, 2022). Additionally, a study conducted with mothers of children with ASD suggested that these mothers need to have high levels of resilience to avoid emotional exhaustion (Acar, 2018). Studies comparing the quality of life, stress, and social relationships in parents of children diagnosed with SLD and ASD to those of children with ND parents have shown that these mothers have lower quality of life, higher levels of stress and depression, and impaired social relationships (Khan & Humtsoe, 2016; Mohammadchenari et al., 2023). Upon reviewing the literature, no study comparing cognitive flexibility and resilience levels in mothers of children diagnosed with SLD and ASD was found. This study was conducted to compare the levels of cognitive flexibility and resilience in mothers of children diagnosed with SLD and ASD.

When examining the relevant studies in the literature, it is observed that while there may not be many studies directly comparing cognitive flexibility and resilience in mothers of children with special needs, there are numerous studies on the psychological well-being, resilience, stress, and anxiety levels of these families. For instance, studies have shown that mothers of children with special needs often experience higher levels of stress and anxiety, which negatively impact their psychological well-being and resilience (Albaş, 2023; Atılgan & Kolburan, 2019; Tekinarslan & Tok, 2023). Additionally, research indicates that these mothers frequently report lower levels of life satisfaction and higher rates of depression compared to mothers of children with ND (Demiray, 2019; Hassamancıoğlu et al., 2020). A previous study comparing the levels of resilience and cognitive flexibility in mothers of children diagnosed with ID and SLD found that these skills were indeed lower in families with children with special needs (Fırat, 2022). A study conducted with mothers of children with ASD suggested that these mothers need to have high levels of resilience to avoid emotional exhaustion (Acar, 2018). Studies comparing the quality of life, stress, and social relationships in parents of children diagnosed with SLD and ASD to those of children with ND have shown that these mothers have lower quality of life, higher levels of stress and depression, and impaired social relationships (Khan & Humtsoe, 2016; Mohammadchenari et al., 2023).

However, there is a notable gap in the literature regarding the direct comparison of cognitive flexibility and resilience levels in mothers of children diagnosed with SLD and ASD. This comparison is crucial as it can provide deeper insights into the specific challenges faced by these mothers, and identify targeted interventions to support their mental health. Children with SLD and ASD present different types of challenges that can uniquely impact their mothers' psychological well-being. Understanding these differences can help in developing specialized support systems and policies.

Therefore, this study was conducted to compare the levels of cognitive flexibility and resilience in mothers of children diagnosed with SLD and ASD. By doing so, we aim to highlight the unique needs of these families and emphasize the importance of tailored psychosocial interventions.

Method

This study was conducted between December 2023 and May 2024 at a special education center in the Yenimahalle district of Ankara province. The research was approved in accordance with Non-Interventional Clinical Research Ethics Committee of Ankara Medipol University on December 26, 2023, with approval number 174 (E-81477236-604.01.01-9445), and conducted conducted in accordance with the Helsinki Declaration.

Population and Sample of the Research

The number of participants in the study was determined to be 87 based on a power analysis conducted using GPower software. The power analysis was informed by the effect sizes and statistical findings reported in a study by Fırat (2022). Specifically, we used the effect size (Cohen's d) reported in the study, along with a confidence level of 95% and a margin of error of 0.05. These parameters were input into the GPower software to calculate the required sample size. Using the effect size reported in Fırat (2022), an alpha level of 0.05, and a desired power of 0.80, the power analysis indicated that a sample size of 87 participants would be sufficient to detect statistically significant differences. This sample size ensures that the study has adequate power to identify meaningful effects and differences between the groups of mothers with children diagnosed with SLD, ASD, and ND children. This is supported by Kiani et al. (2022), who used a sample size of 90 participants (30 per group) to compare life satisfaction and hope in mothers of children with SLD, ASD, and TD, and obtained significant results. Therefore, our sample size of 87 participants is consistent with these findings and considered sufficient for the current study.

The study included 29 mothers of children diagnosed with SLD, 29 mothers of children diagnosed with ASD, and 29 mothers of children with ND. Participants were selected using convenience sampling, a non-probability sampling technique where subjects are selected because of their convenient accessibility and proximity to the researcher (Etikan et al., 2016). This method was chosen due to practical considerations such as time constraints and ease of access to the specific population at the special education center.

Before the commencement of the study, written consent was obtained from the participants, and they were informed of the confidentiality of their participation. The participants were interviewed in person and asked to complete the scales after receiving detailed explanations.

The study included children aged between 8 and 15 years who were receiving regular education at a special education and rehabilitation center, as well as mothers who were able to read and write Turkish. The age range of 8-15 years was selected because the cognitive and psychological assessment tools used in this study are validated for this age group. Additionally, this age range is critical for observing the development and educational challenges associated with SLD and ASD. This period is essential for identifying and addressing educational and developmental needs, making it a suitable focus for our study (Gresham, 2002; Bishop, 2010; Volkmar, 2014). The inclusion criteria for the group of children with SLD and ASD were similar: the child must be diagnosed with SLD or ASD, aged between 8 and 15 years, and receiving regular education. Additionally, the mother must be able to read and write Turkish. The inclusion criteria for the group of children with ND were as follows: the child must be healthy, aged between 8 and 15 years, and have no diagnosis. Additionally, the mother must be able to read and write Turkish.

Children with any physical, neurological, or psychological disorders in addition to SLD or ASD diagnoses, and mothers with any psychological disorders, were excluded from the study. For the group of children with ND, the exclusion criterion was that the mother had any physical or psychological disorders.

Data Collection Tools

Sociodemographic Information Form: This form, prepared by the researchers, includes information on the mother's age, occupation, employment status, income level, and health status, as well as

information on the child's age, gender and diagnosis.

Cognitive Flexibility Inventory (CFI): Developed by Dennis and Vander Wal in 2010, this scale consists of 20 items rated on a 7-point Likert scale and comprises two subsdimensions: "Alternatives" and "Control" (Dennis & Vander Wal, 2010). During its adaptation into Turkish, the scale was converted into a 5-point Likert scale, with scoring ranging from 1 (Not at all suitable) to 5 (Completely suitable). Items 2, 4, 7, 9, 11, and 17 are reverse-scored. The total score ranges from 5 to 100, where higher scores indicate greater cognitive flexibility. The Cronbach's alpha internal consistency coefficient for the entire scale was found to be 0.90 (Gülüm & Dağ, 2012).

Resilience Scale for Adults (RSA): First developed by Friborg et al. in 2003, this scale includes six sub-dimensions, namely "Structured Style," "Future Perception," "Family Adjustment," "Self Perception," "Social Competence," and "Social Resources," and consists of 33 items in total (Friborg et al., 2003). Responses are recorded using a schematic format with 5 separate boxes. There are no norm values for scoring. Items 1, 3, 4, 8, 11, 12, 13, 14, 15, 16, 23, 24, 25, 27, 31, and 33 are reverse-scored, yielding a total score between 33

and 165, where higher scores indicate increased resilience. The Turkish validity and reliability study for this scale was conducted by Basım and Çetin in 2011, with a Cronbach's alpha coefficient of 0.74 (Basım & Çetin, 2011).

Statistical Analysis

The statistical analysis of the data collected in this study was conducted using IBM SPSS Statistics version 26.0. The variables were investigated using visual (histograms and probability plots) and analytical methods (Kolmogorov–Smirnov/Shapiro–Wilk's test) to determine whether they were normally distributed. Descriptive analyses were presented using medians and interquartile range (IQR) for the non-normally distributed and ordinal variables. Since the data, such as ages, CFI points, and RSA points, were not normally distributed, nonparametric tests were conducted to compare these parameters. Since the data were not normally distributed, Kruskal-Wallis H Test was used to test the differences between CFI and RSA scores of mothers of children with SLD, ASD and ND. The new p value (p^a) corrected by the Bonferroni method was used for pairwise comparisons of significant results and the groups were compared using the Mann-Whitney U Test. A significance

Table 1. Sociodemographic characteristics of the participants (n=87).

	SLD		ASD		ND	
	M ± SD	Med.	M ± SD	Med.	M ± SD	Med.
Age of mothers (years)	35.8 9± 6,57	34	40.03 ± 6.7	40	37.62 ± 4.93	38
Age of children (years)	9.86 ± 2.08	9	10.65 ± 2.28	10	10.44 ± 2.18	10
			Mothers of children with			
	SLD (n=29)		**ASD (n=29)**		**ND (n=29)**	
Working status	n	%	n	%	n	%
Yes	9	31	8	27.6	6	20.7
No	20	69	21	72.4	23	79.3
Educational status						
Primary school	3	10.3	11	37.9	3	10.3
Middle school	6	20.6	9	31	6	20.6
High school	12	41.3	5	17.2	12	41.3
University	6	20.6	2	6.89	5	17.2
Master/Doctorate	2	6.8	2	6.89	3	10.3
Income level						
Low	8	27.5	11	37.9	6	20.6
Middle	14	48.2	14	48.2	9	31
High	7	24.1	4	13.7	14	48.2
Gender of child						
Male	17	58.6	9	31	16	55.2
Female	12	41.4	20	69	13	44.8

SLD= spesific learning disability; ASD= autism spectrum disorder; ND= normal development; M= mean; SD= standard deviation; Med.= Median.

level of p < 0.05 was considered statistically significant.

Findings

A total of 87 mothers participated in the study, with 29 mothers in each group (SLD, ASD, and ND). Detailed sociodemographic information, including the ages of the mothers and children, is provided in Table 1.

Cognitive flexibility and resilience scores of mothers of children with SLD, ASD and NG are shown in Table 2.

Table 2. Cognitive Flexibility and Resilience Scores of Mothers According to Children's Diagnostic Status (n=87).

			M ± SD	Median
CFI	Alternatives	SLD	51.51 ± 1.10	52
		ASD	45.75 ± 1.35	48
		ND	54.96 ± 1.17	51
	Control	SLD	24.51 ± 1.87	24
		ASD	21.03 ± 0.98	23
		ND	25.55 ± 1.02	24
	Total	SLD	74.44 ± 1.93	76
		ASD	66.79 ± 2.05	71
		ND	80.41 ± 141	78
RSA	Structured style	SLD	14.34 ± 0.64	15
		ASD	11.93 ± 0.60	12
		ND	14.24 ± 0.56	14
	Perception of future	SLD	13.48 ± 0.82	14
		ASD	11.89 ± 0.54	13
		ND	14.96 ± 0.58	14
	Family cohesion	SLD	22.58 ± 0.79	23
		ASD	23.00 ± 0.75	23
		ND	21.86 ± 0.85	21
	Perception of self	SLD	21.58 ± 0.97	22
		ASD	21.03 ± 0.93	22
		ND	22.10 ± 0.69	22
	Social competence	SLD	20.58 ± 0.96	20
		ASD	19.72 ± 0.92	20
		ND	22.06 ± 0.88	21
	Social resources	SLD	26.48 ± 1.14	26
		ASD	26.13 ± 0.83	26
		ND	26.31 ± 0.97	27
	Total	SLD	119.06 ± 4.04	113
		ASD	113.72 ± 2.76	113
		ND	121.55 ± 3.59	123

*CFI = Cognitive Flexibility Inventory; RSA = Resilience Scale for Adults; SLD = specific learning disability; ASD = autism spectrum disorder; ND = normal development; M = mean; SD = standard deviation; Med. = Median; *p < 0.05; **p < 0.01.*

A Kruskal-Wallis test indicated that there was a significant difference in cognitive flexibility scores across mothers of children with SLD, ASD, and ND ($\chi 2$=20.872; p=0.001). Comparisons between the 3 groups for the subdimensions of the CFI are seen in detail in Table 3.

Table 3. Kruskal Wallis-H Test Results Regarding the Difference Between Mothers' Cognitive Flexibility Scores According to Children's Diagnostic Status (n=87).

			X²	p
CFI	Alternatives	SLD	22.8	**0.001****
		ASD		
		ND		
	Control	SLD	6.502	**0.039***
		ASD		
		ND		
	Total	SLD	20.872	**0.001****
		ASD		
		ND		

*CFI = Cognitive Flexibility Inventory; SLD = specific learning disability; ASD = autism spectrum disorder; ND = normal development; *p < 0.05; **p < 0.01.*

A Kruskal-Wallis test indicated that there was not a significant difference in resilience scores across mothers of children with SLD, ASD, and ND ($\chi 2$=1.842; p=0.398). Comparisons between the 3 groups for the subdimensions of the RSA are seen in detail in Table 4.

Table 4. Kruskal Wallis-H Test Results Regarding the Difference Between Mothers' Resilience Scores According to Children's Diagnostic Status (n=87).

			X²	p
RSA	Structured style	SLD	7.841	**0.020***
		ASD		
		ND		
	Perception of future	SLD	8.925	**0.012***
		ASD		
		ND		
	Family cohesion	SLD	1.417	0.492
		ASD		
		ND		
	Perception of self	SLD	0.438	0.803
		ASD		
		ND		
	Social competence	SLD	2.226	0.329
		ASD		
		ND		
	Social resources	SLD	0.087	0.957
		ASD		
		ND		
	Total	SLD	1.842	0.398
		ASD		
		ND		

*RSA = Resilience Scale for Adults; SLD = specific learning disability; ASD = autism spectrum disorder; ND = normal development; *p < 0.05.*

Post-hoc comparisons using Bonferroni correction for multiple tests indicated that the median scores of mothers of children with ASD were significantly lower than those of mothers of children with ND in the 'Alternatives' sub-dimension and total score

of the CFI, as well as in the 'Structured style' sub-dimension of the RSA (pª<0.016). Additionally, significant differences were found between mothers of children with ASD and mothers of children with ND in all sub-dimensions and the total score of the CFI, as well as in the 'Structured style' and 'Perception of future' sub-dimensions and the total score of the RSA (pª<0.016). Mann-Whitney U Test results for pairwise comparisons related to cognitive flexibility and resilience are shown in Table 5.

5. Mann-Whitney-U Test Results for Pairwise Comparisons Between Mothers' Scale Scores According to Children's Diagnostic Status (n=87).

		Pª		
		ND		ASD
		SLD	ASD	SLD
	Alternatives	0.047	0.001**	0.002*
CFI	*Control*	0.252	0.013*	0.132
	Total	0.077	0.001**	0.008*
	Structured style	0.925	0.015*	0.016
	Perception of future	0.247	0.002*	0.091
	Family cohesion	0.387	0.261	0.749
	Perception of self	0.702	0.516	0.767
RSA	*Social competence*	0.357	0.134	0.628
	Social resources	0.852	0.913	0.773
	Total	0.624	0.001**	0.489

CFI= Cognitive Flexibility Inventory; RSA= Resilience Scale For Adutls; SLD= 214pecific learning disability; ASD= autism spectrum disorder; ND= normal development; *pª<0.016.

Discussion and Conclusion

The study indicates that mothers of children with SLD and ASD exhibit lower levels of cognitive flexibility and resilience compared to mothers of children with ND. Moreover, comparisons between mothers of children with SLD, ASD, and ND revealed significant differences in cognitive flexibility and resilience outcomes.

Cognitive flexibility is defined as the ability of individuals to adapt cognitive processing strategies to cope with new and unexpected situations (Canas et al., 2003). The study results indicate that mothers of children with ASD exhibited the lowest level of cognitive flexibility, followed by mothers of children with ID, while mothers of children with ND demonstrated a higher level of cognitive flexibility compared to both groups.

Previous research on cognitive flexibility suggests that mothers of children with special needs, such as ASD, experience significant challenges that can hinder their ability to adapt and think flexibly. For instance, Shahabi et al. (2020) found that high levels of stress and constant caregiving demands negatively impact cognitive flexibility in parents of children with ASD. Similarly, Hisoğlu (2018) reported that mothers of children with ASD show reduced cognitive flexibility due to the constant need for structured routines and coping with unpredictable behaviors.

The birth of a child with ASD initiates a challenging process for parents, often compounded by the lack of available resources and support. Empirical evidence indicates that parents, particularly mothers of children with ASD, experience elevated levels of stress and depression (Merkaj et al., 2013; Phetrasuwan & Shandor Miles, 2009). Mothers of children with ASD may be required to exert considerable effort to meet their children's needs, which can increase their stress levels and negatively affect their cognitive flexibility. Constant exposure to elevated levels of stress can impair cognitive functions and diminish mothers' abilities for flexible thinking (Sadeghi et al., 2023; Shahabi et al., 2020). Research in Turkey supports these findings as well. A study by Kara et al. (2024) found that mothers of children with ASD in Turkey face significant stress and anxiety, which negatively impacts their cognitive flexibility. Güleç-Aslan (2017) highlighted that Turkish mother of children with ASD experience higher levels of psychological distress compared to mothers of children with ND, which further impairs their cognitive flexibility.

Among the general symptoms experienced throughout their lives by children with ASD, there is often a tendency to adhere tightly to specific routines and discomfort with unexpected changes. This situation may necessitate that mothers organize their lives by a specific order (Khan & Humtsoe, 2016). This constant need for predictability may diminish mothers' cognitive flexibility levels and limit their ability to adapt to changing circumstances (Sadeghi et al., 2023).

The study results have indicated a significant weakness in both the control and alternative subdimensions of cognitive flexibility in mothers of children with ASD compared to mothers of

children with SLD and mothers of children with ND. The control dimension reflects the tendency to perceive challenging situations as controllable, while the alternative dimension indicates the ability to perceive possible alternatives in life situations and human behaviours and to generate numerous solutions to resolve challenging situations (Kiani et al.,2022). Mothers of children with ASD frequently encounter difficulties in communicating with their children and engaging in social interactions. This difficulty can negatively affect their problem-solving abilities by impacting their ability to cope with social and emotional challenges (Papadopoulos, 2021). Furthermore, mothers of children with ASD may require additional resources and support to meet their children's needs. The difficulties encountered in accessing these resources and support can result in elevated levels of anxiety among mothers, which in turn has a detrimental impact on their cognitive flexibility (Miranda et al., 2019; Rfat et al., 2023).

When comparing mothers of children with SLD and ASD, it was observed that mothers of children with ASD had lower cognitive flexibility. ASD is often associated with uncertainty in terms of symptoms, which can cause parents to worry about the future, while SLD may be associated with more specific and identifiable challenges, allowing mothers to be more confident in providing appropriate support for their children's needs (Kiani et al., 2022). On the other hand, mothers of children with ASD may often experience greater difficulties in communicating with and engaging in social interactions with their children. Mothers of children with SLD may encounter less pronounced difficulties in communication and social interaction (Benjak et al., 2009; Kiani et al., 2022). All these factors may contribute to higher levels of cognitive flexibility in mothers of children with SLD compared to mothers of children with ASD.

When comparing the levels of resilience among the three groups, it was found that participants with the lowest scores were mothers of children with ASD. In pairwise comparisons, it was observed that the resilience levels of mothers of children with ASD were weaker compared to mothers of children with ND, while no significant

difference was observed in resilience between mothers of children with SLD and mothers of children with ASD, or between mothers of children with SLD and mothers of children with ND.

In terms of resilience, research indicates that mothers of children with ASD often face substantial emotional and psychological burdens that diminish their resilience. Acar (2018) highlighted that the high caregiving demands and social stigma associated with raising a child with ASD contribute to lower resilience levels in these mothers. Furthermore, studies by Tekinarslan and Tok (2023) found that social support and self-compassion are critical factors that influence resilience in mothers of children with special needs, suggesting that mothers with higher levels of social support exhibit greater resilience.

In contrast, mothers of children with SLD may face different but equally challenging circumstances. Research by Al-Oran and Khuan (2021) indicates that these mothers experience high levels of anxiety and stress related to their children's academic struggles and social integration issues, which can negatively impact both cognitive flexibility and resilience. However, as highlighted by Matteucci et al. (2019), the visibility and social understanding of SLD symptoms may lead to less stigma and slightly better support systems compared to ASD, which might explain why resilience levels in mothers of children with SLD, while still lower than in mothers of TD children, are not as severely impacted as those in mothers of children with ASD.

Khan and Humtsoe (2016) observed that mothers of children with learning difficulties exhibited superior psychological well-being compared to other groups, whereas mothers of children with ASD exhibited the lowest levels of subjective well-being in the psychological domain. We hypothesize that parents of children with ASD who experience difficulties in coping with stressful situations tend to exhibit physical and psychological fatigue, which negatively affects the parents' level of resilience (Hartley et al., 2010). Furthermore, in numerous studies that have compared the resilience levels of mothers of children with different diagnostic groups,

including Down Syndrome, learning difficulties, and developmental coordination disorder, mothers of children with ASD have consistently scored the lowest (Janha, Punyapas, & Ratta-Apha, 2021; Ogston, Mackintosh, & Myers, 2011; Pastor-Cerezuela, Fernández-Andrés, Pérez-Molina, & Tijeras-Iborra, 2021; Schoemaker & Houwen, 2021). Local research in Turkey also supports these findings. Acar (2018) highlighted that mother of children with ASD in Turkey face significant emotional and psychological challenges, resulting in lower resilience levels compared to mothers of children with other developmental disorders. Tekinarslan and Tok (2023) found that social support and self-compassion significantly influence resilience among mothers of children with special needs in Turkey. Moreover, Albaş (2023) emphasized that the lack of societal understanding and adequate support systems in Turkey exacerbates the psychological burden on these mothers, further reducing their resilience.

A comparison of the subdimensions that constitute resilience revealed that mothers of children with ASD exhibited significantly lower scores than mothers of children with ND in the structural style and future perception dimensions. Future perception reflects an individual's outlook on the future, while structural style defines a person's self-confidence and self-discipline (Polatçı & Tınaz, 2021). The difficulties encountered by children with ASD in performing everyday activities frequently result in long-term care requirements that far exceed ordinary needs or parental expectations. The provision of high-level care for a child with lifelong functional limitations can be a significant source of stress for mothers of children with ASD, with potential implications for both their physical and psychological health (Benjak et al., 2009; Papadopoulos, 2021). Previous studies have indicated that families of children with OSB experience a significant burden in childcare responsibilities, which results in reduced participation in social activities and community services (Mugno et al., 2007). A significant number of parents report either quitting their jobs or changing employment to better care for their disabled children, which has an economic impact (Al-Jadiri et al., 2021).

Children with SLD frequently encounter challenges in specific academic or skill areas, yet they may generally demonstrate superior social interaction and communication skills compared to children with ASD (Prino et al., 2016; Şahin et al., 2018). This circumstance may influence mothers' expectations for their children's futures and, consequently, their resilience. Furthermore, ASD is frequently met with significant societal stigma, which can result in elevated stress levels for mothers, diminished family engagement in social activities, and a particularly detrimental impact on maternal self-confidence. Conversely, SLD symptoms are often less visible or comprehensible, resulting in lower susceptibility to stress induced by societal perceptions (Heiman & Berger, 2008; Kiani et al., 2022).

The study findings indicated that mothers of children with SDL exhibited lower cognitive flexibility and resilience compared to mothers of children with ND. Although this difference was not statistically significant, existing literature indicates that mothers of children with SLD experience higher levels of stress and anxiety and have weaker resilience compared to mothers of children with ND (Bonifacci et al., 2016; Karande et al., 2009; Matteucci et al., 2019). Parents of children with disabilities frequently encounter difficulties in terms of life satisfaction, emotional state, and perceptions of the enjoyment of life (Bonifacci et al., 2016; Karande et al., 2009; Hayes & Watson, 2013; Mugno et al., 2007). Consequently, it has been demonstrated that parents of children with disabilities who perceive these challenges negatively tend to exhibit lower levels of resilience compared to parents of children without disabilities (Khan & Humtsoe, 2016). In a study by Bonifacci et al. (2016), it was found that parents of children with SLD experience greater parenting stress and a lower quality of life compared to parents of children with ND. Karande et al. (2009) found that mothers of children with SLD experience poorer psychological health and social relationships, and mild anxiety emerges in mothers, particularly concerning their children's school performance, behaviour, and future expectations upon receiving an SLD diagnosis.

Overall, our findings are consistent with previous research, emphasizing the need for targeted interventions to support the psychological well-being of mothers of children with SLD and ASD. Interventions aimed at enhancing cognitive flexibility and resilience through stress management, social support, and adaptive coping strategies could be particularly beneficial (Dennis & Vander Wal, 2010; Ruiz-Robledillo et al., 2014)."

The findings of this study are valuable for various professionals working with disadvantaged children and their parents, including occupational therapists, child development specialists, psychologists, and educators. By understanding the unique challenges faced by mothers of children with SLD and ASD, these professionals can develop targeted interventions to enhance cognitive flexibility and resilience. Schools and classroom teachers can also benefit from these insights by creating supportive environments that address the specific needs of these families. Implementing strategies that reduce parental stress and promote resilience can significantly improve the overall well-being of both parents and children.

The sample size may have influenced the results of the current study. A larger sample size could have potentially provided a normal distribution, thereby strengthening the findings and allowing for more robust statistical analyses, such as regression analyses. Furthermore, the statistical analyses may have been affected by uncontrolled variables, which could explain the observed differences in cognitive flexibility and resilience levels. For example, factors such as mothers' educational levels, socioeconomic status, and social support networks may influence cognitive flexibility and resilience levels and should be considered in future studies. Increasing the sample size in future research would not only enhance the generalizability of the findings but also provide a better understanding of the factors affecting cognitive flexibility and resilience in this population. Consequently, it would be beneficial to investigate these factors in larger and more homogeneous groups in future studies.

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OPUS▸

RESEARCH ARTICLE

Comparing Product Advertising Videos: User Comments on Traditional Celebrities vs. Youtubers

Fatma Halide Kıvrak[1] I Ali Kıvrak[2]

[1] Research Assistant, Ibn Haldun University, Business School, İstanbul/Türkiye
ORCID: 0000-0002-1379-9347
E-Mail:
halide.kivrak@ihu.edu.tr

[2] Research Assistant, Ibn Haldun University, Communication School, İstanbul/Türkiye
ORCID: 0000-0002-1251-6448
E-Mail:
ali.kivrak@ihu.edu.tr

Corresponding Author:
Fatma Halide Kıvrak

Abstract

Businesses are modifying their strategies to respond to the constantly changing media environment. In the past, marketing teams relied on traditional celebrities to promote brands and boost sales. Recently, social media celebrities such as Instagrammers, Tiktokers, youtubers, and influencers have emerged as popular options for marketing communication due to their significant attention and preference. Despite considerable research on traditional and social media influencer endorsements, there remains a gap in understanding how social media users perceive and interact with these endorsements. This study investigates the differences in topic, sentiment, and pragmatics of user comments on Youtube advertisement videos showcasing traditional celebrities and youtubers. We examined user comments on eight advertisement videos using content analysis, with half featuring traditional celebrities and the other half featuring youtubers. The findings indicate that including traditional celebrities in videos leads to increased user focus on brand features, along with greater expressions of admiration and positive sentiment. Furthermore, traditional celebrities are more effective than influencers in fostering favourable and reliable brand awareness. Possible explanations for these results are considered, and their theoretical and practical implications are derived.

Keywords: *celebrity endorsements, social media influencer endorsements, user comments, social media marketing, YouTube ad videos*

Öz

İşletmeler, medya ortamındaki dinamik değişimlere yanıt olarak marka desteği uygulamalarını uyarlamaktadır. Geçmişte geleneksel ünlüler, marka farkındalığı yaratmak ve satışları artırmak için pazarlama ekiplerinin öne çıkan seçimiyken son yıllarda Instagrammer'lar, Tiktoker'lar, Youtuber'lar ve influencer'lar gibi sosyal medya ünlüleri büyük ilgi görmeye başlamış ve pazarlama iletişiminde aynı amaçla tercih edilmeye başlanmıştır. Hem geleneksel ünlü desteklerinin hem de sosyal medya fenomen desteklerinin etkisi kapsamlı bir şekilde incelenmiş olsa da sosyal medya kullanıcılarının bu destekleri nasıl algıladıkları ve bu desteklerle nasıl etkileşim kurdukları konusunda ek araştırmalara ihtiyaç duyulmaktadır. Bu çalışma, Youtube'da yayınlanan ve geleneksel ünlüler ile Youtuber'ların yer aldığı ürün reklam videolarına yönelik izleyici yorumlarındaki farklılıkları incelemektedir. Yarısında geleneksel ünlülerin, diğer yarısında ise Youtuber'ların yer aldığı sekiz reklam videosuna ilişkin kullanıcı yorumları içerik analizine tabi tutulmuştur. Sonuçlar, videolarda geleneksel ünlüler yer aldığında, izleyicilerin marka ayrıntılarına daha fazla dikkat ettiğini ve daha fazla övgü ve olumlu duygular ifade ettiğini göstermektedir. Ayrıca, geleneksel ünlülerin olumlu ve güvenilir marka tanınırlığını teşvik etme konusunda influencer'lardan daha fazla etkiye sahip olduğu görülmüştür. Bu sonuçlara ilişkin olası açıklamalar ele alınmış ve teorik ve pratik çıkarımlar yapılmıştır.

Anahtar Kelimeler: *ünlü onayları, sosyal medya influencer onayları, kullanıcı yorumları, sosyal medya pazarlaması, Youtube reklam videoları,*

Introduction

YouTube has evolved from a simple video-sharing platform into a widespread and influential presence today, going beyond just providing entertainment. With a massive 11.4 % share of global internet data traffic (Armstrong, 2023), Youtube ranks second only to the streaming giant Netflix. Additionally, it has an impressive user base of 2.3 billion active users. This digital platform profoundly influences various aspects of life, including education, commerce, and social interaction, becoming deeply integrated into the core of contemporary society (Zhou et al., 2020).

Youtube's immense size is a major factor in its widespread presence. Youtube serves as a continuous repository of audiovisual expression, with an additional sixty hours of new content uploaded every minute (Madhavika & Rathnayake, 2020). The substantial amount of content ensures a constant influx of new and diverse materials, attracting viewers and enticing them to repeatedly engage with the platform's captivating content. Unsurprisingly, this results in significant financial power. In the realm of social media advertising, YouTube holds the second-highest position in terms of popularity as of January 2023. Youtube experienced a 33% yearly growth rate and accounted for 29% of the total digital advertising market share in 2020. In a market where the annual digital advertising expenditure amounts to an astonishing $226 billion, Youtube alone draws in 74.8 billion monthly visitors and 5.8 billion distinct users. On average, users spend 36 minutes on the platform during each visit (Kemp, 2023).

In the ever-evolving field of advertising, the growing influence of digital and social media has compelled marketers to seek innovative communication methods to engage their target audiences efficiently. In the context of social media, influencer marketing has become a crucial element of firms' advertising strategies, acting as a catalyst for increased interaction between brands and consumers (Stubb et al., 2019). This approach utilises key opinion leaders, known as influencers, to forge connections between their followers and brands (Bi & Zhang, 2023), marking a departure from traditional mass marketing techniques (Haapasalmi, 2017). To illustrate, marketers currently employ influencers to spread word-of-mouth (WOM) endorsements of their products on social media, underscoring the increasing importance of this marketing channel, especially through the strategic use of electronic word-of-mouth (e-WOM) (Liu et al., 2015).

The rise of social media has led to the emergence of a distinctive celebrity phenomenon referred to as 'micro-celebrities' or social media celebrities (Khamis et al., 2017). These individuals, such as youtubers and Instagrammers, build their reputations through active engagement with their social media followers (Schouten et al., 2020). Therefore, apart from relying on traditional celebrities like actors, supermodels, and athletes to amplify their brand awareness on social media, businesses are progressively leveraging social media influencers, such as vloggers and 'Instafamous' personalities, to promote and endorse their brands (Ahmed et al., 2015).

This has spurred numerous studies comparing the effectiveness of social media influencers and traditional celebrities in brand promotion (Djafarova & Trofimenko, 2019; Gräve, 2017; S. V. Jin et al., 2019; Nouri, 2018; Piehler et al., 2022; Schouten et al., 2020). However, within the context of social media marketing on YouTube, there is a notable gap in understanding the brand-related impact of online videos created by social media celebrities and traditional celebrities, particularly through user comments. Therefore, our study addresses this gap by focusing on two distinct categories of influencers within the popular social media platform, YouTube. These two categories are traditional celebrities and youtubers (as social media celebrities). By examining video comments from users on this social media platform, the research aims to understand whether youtubers' ad videos or traditional celebrities' ad videos differentiate from each other regarding the topics, pragmatics, and sentiments of the comments.

This study aims to examine the differences in user comments on advertising videos posted on YouTube which feature traditional celebrities and social media influencers. The opinions expressed in the user comments are evaluated across three

main categories: topic, pragmatics, and sentiment. The primary research question addressed in this study is as follows:

Research Question: What is the overall impact of celebrity endorsements versus online influencer endorsements on user comments' YouTube video ads?

Based on this main research question 3 sub-questions formulated:
1. What is the influence of the type of endorser on the topic discussed in the comments made by users?
2. What communication styles do users display in their comments based on the type of endorser?
3. How do endorser types influence the emotional aspects of user comments on advertising videos?

To answer these questions, we analysed comments from eight advertising videos featuring prominent brands (*Coca Cola, Magnum, Mavi, Oppo, Maybelline, Ruffles, Teknosa, and Lipton*). These videos were divided evenly between traditional celebrities and youtubers. Our assessment covered three main categories: topic, pragmatic aspects, and sentiment of the comments based on the coding scheme developed by Wendt et al. (2016).

This study enhances the field of digital advertising by conducting a comparative analysis of the effect of social media influencers and traditional celebrities on user engagement in YouTube videos. This study also addresses a knowledge gap by examining user comments on endorsement ad videos and providing data on how users perceive such ads. Moreover, the research contributes to the discussion on the comparative effectiveness of influencer and celebrity endorsements, a subject that marketing experts have extensively debated. We anticipate that the study's findings will aid marketing practitioners in crafting more effective marketing strategies.

2. Literature Review

2.1. The Comparison of Celebrity and Online Influencer Endorsements in Marketing Communications

Celebrity and online influencer endorsements have become essential elements of marketing communication strategies, exerting a substantial influence on consumer behaviour and brand perception. Extensive research has been conducted on the influence of celebrity endorsements on consumer buying behaviour, revealing that it can significantly affect consumers' attitudes, behaviour, and intentions to make a purchase.

Businesses have long engaged celebrities to endorse and promote their products or services for profit, and empirical evidence has demonstrated the high effectiveness of this approach in boosting market performance and elevating brand values (Erdogan, 1999). In addition to this, the concept of influencer marketing initially stemmed from celebrity endorsements, leveraging the recognition gained by traditional celebrities due to their professional talents (Schouten et al., 2020). Tam's (2020) study investigates how opinion leaders on social media influence marketing. The results show that, especially when they communicate effectively, offer insightful information, and are modelled by their audience, influencers are seen as opinion leaders. These influencers indicate their major influence on consumer behaviour and preferences, so guiding modern marketing plans. The study emphasises how social media influencers help to promote brands and consumer involvement by their perceived authority and trustworthiness in particular sectors, so stressing the need of including both influencers and their audiences into public relations and marketing campaigns. This corresponds with theoretical viewpoints on the impact of opinion leaders in shaping public opinion and behaviour of the users inside social networks.

Brands employ influencer marketing, a deliberate strategy, to promote their products by partnering with influential individuals who have influence over their followers (Stubb et al., 2019). Social media influencers, ordinary individuals

who have transformed into online celebrities or micro-celebrities through content creation, typically specialise in specific niches like cosmetics, healthy living, travel, or fashion (Lou & Yuan, 2019). The most prevalent influencers fall into four categories: celebrities, industry experts and thought leaders, bloggers and content creators, and micro-influencers (Geyser, 2024). Industry experts and opinion leaders are individuals respected by the public for their expertise, position, or competence in a specific field. Professional roles such as journalists, industry experts, academicians, or professional advisors often engender this respect (Geyser, 2024). Bloggers and content creators, essential components of both influencer marketing and public relations activities, have played a significant role over the past few decades. Bloggers contribute to online community content, considered a form of online PR, as studies have found that networks of bloggers and youtubers constitute communities (Gannon & Prothero, 2018). Additionally, content creation extends to video, with youtubers creating channels on Youtube, offering an attractive platform for companies as their popularity grows.

Marketers view blogging as a contemporary form of digital word-of-mouth. For instance, blog users' trust in bloggers' recommendations has a significant and influential impact on their attitudes and intentions towards online shopping (Hsu et al., 2013). Micro-influencers are regular individuals recognised for their expertise in specific niche areas, holding substantial influence within their social media communities. Companies often need to proactively approach micro-influencers, as these influencers may not be aware of a company's existence until contacted for product promotion (Geyser, 2024).

In recent years, the popularity of social media influencers has experienced significant growth, leading to the widespread integration of influencer marketing into corporate strategies (Vrontis et al., 2021). Carcavilla & Aguirre (2022) assert that influencer personalities have gained popularity alongside mass media, revolutionising marketing communications. Their study concludes that, unlike its competitors, Gucci's communication strategy focuses on enhancing product awareness

and positioning the brand as a trend-setter and influencer. Furthermore, Lou and Yuan (2019) investigated how influencers' trustworthiness, attractiveness, and knowledge influence followers' trust in branded posts. Their findings suggest that these attributes not only influence brand awareness but also play a role in shaping purchase intentions.

Companies' increasing investment in influencers for brand and product promotion has not only impacted marketing strategies but has also become a subject of study in consumer research literature. Some studies suggest that consumers perceive influencers as more trustworthy than traditional celebrities in advertisements (Campbell & Kirmani, 2000).

According to Jin et al. (2019), consumers perceive Instagram celebrities' brand posts as more credible, evoking a more positive attitude compared to traditional celebrities' advertisements. A Twitter study by Swant (2016) reveals that consumers trust social media influencers as much as they trust their friends.

De Veirman et al. (2017) emphasised the importance of follower count, indicating that influencers with high follower numbers are perceived as more sympathetic. In another study, Veirman (2019) investigates the persuasive power of online influencers on children, underscoring their progression as a new source in advertising.

In a recent study, Hess et al. (2022) revealed how important relationships with consumers are for the new generation of social media influencers compared to traditional celebrities. Childers et al. (2019) explored the experiences of advertising professionals regarding influencer marketing, highlighting its significance as a thriving industry that demands strategic decision-making.

Supporting these ideas, Breves et al. (2019) demonstrated that the compatibility between an influencer and a brand positively impacts both the influencer's image and the effectiveness of advertising.

In terms of e-commerce, Bylock and Lidberg (2018) examined the motivations for using influencer marketing to establish brand awareness internationally. Their findings underscore the practical implication that a comprehension of

influencer marketing facilitates word-of-mouth promotion and contributes to enhanced brand awareness. Booth and Matic (2011) provided valuable insights into how influencers impact traditional target audiences, guiding professionals to refine their strategies through collaboration. The integration of influencer index data into a comprehensive social media strategy presents an all-encompassing approach to optimising brand equity.

Fan (2020) conducted a study comparing traditional celebrity endorsements by interviewing consumers and discovered results that oppose the prevailing literature. In this qualitative study, interviewees showed a predominantly unfavourable disposition towards online do-it-yourself (DIY) celebrities and their promotional endeavours. In contrast, interviewees perceived traditional celebrity endorsers as more favourable and influential in their endorsement roles, resulting in a positive perception and effectiveness. Fan (2020, p. 179) suggests that cultural differences could explain the results, which contradict the existing literature.

When analysing how cultural differences affect the endorsement strategies of traditional celebrities and online influencers, it is important to recognise that cultural contexts play a significant role in shaping how audiences perceive and value these endorsements (Winterich et al., 2018, pp. 70–71). The strategy of endorsement varies from culture to culture, adapting to their unique communication styles. Celebrities in high-context cultures, such as Korea, frequently assume social roles in advertisements, conforming to the culture's inclination for understated and indirect communication. In contrast, in low-context cultures like the USA, celebrities are commonly employed as spokespersons or opinion leaders, emphasising direct and explicit communication. The distinction is a result of the diverse communication styles and cultural values found in different societies, which in turn affect the way celebrities are used in advertising content (Choi et al., 2005). In some cultures, traditional celebrities are regarded as symbols of aspiration due to their esteemed status and notable accomplishments in their respective fields. Their endorsements have an influence on their public personas, associating products with their perceived distinction and accomplishment. For instance, in cultures characterised by a significant power distance and a collective mindset, such as India, celebrities wield a greater degree of influence, and their endorsements are more readily embraced by consumers (Abhishek & Sahay, 2016). In contrast, do-it-yourself celebrities, who have gained popularity through online platforms, frequently present a more relatable and ordinary persona, attracting audiences who appreciate genuineness and a sense of personal rapport (Agnihotri & Bhattacharya, 2020; Fan, 2020). The variations in perceived credibility and relatability, which arise from cultural values regarding fame, expertise, and relatability, result in different approaches to endorsement: traditional celebrities capitalising on their status and broad appeal, and self-made celebrities emphasising personal stories and community involvement.

2.2. Assessing Efficacy of Endorsement Using User Comments

Social media platforms offer numerous benefits for companies to effectively communicate with their stakeholders. The diverse engagement features offered by social media platforms facilitate the measurement of communication campaign effectiveness and specific outcomes such as brand awareness, trust, and purchasing attitudes (Bialkova & Te Paske, 2020). Engagement types are classified into three broad categories: creating, contributing, and consuming. These categories encompass engagement methods such as liking, disliking, commenting, tagging, watching, reposting, rating, inviting, and so on. (Dolan et al., 2019). Companies can benefit from using the engagement methods provided by social media platforms for their endorsement campaigns, similar to other marketing campaigns. In particular, user comments directly affect the customers' perceptions, brand image, and purchasing behaviours (S.-A. A. Jin & Phua, 2014; Rashid & Cetinkaya, 2020). Therefore, user comments provide valuable insights into the effectiveness of communication efforts on social

media (Dolan et al., 2019). Researchers commonly use comment and share counts as performance indicators for many aspects of communication efforts (Tafesse & Wood, 2021), however, Chang and Wu (2024) discovered that there is no correlation between the number of comments and share counts and product-centeredness, which refers to how customers mention products in their comments. Companies and marketing teams can easily extract insights using certain techniques like text analysis (Messenger & Whittle, 2011), sentiment analysis (AL-Bakri et al., 2022), word cloud, and machine learning (Lee & Ryu, 2019).

Each platform has its own methods of enabling users to comment on posts. Comments have the potential to cover a wide range of topics, as users are typically unrestricted in their ability to express their thoughts and opinions (Madden et al., 2013). To illustrate, on platform X (previously known as Twitter), every comment is also a tweet. Nevertheless, Facebook, YouTube, and Instagram all feature specific sections designated for user comments.

YouTube or other social media comments have the potential to influence other users' opinions about a particular product or brand (Chang & Wu, 2024; Dwivedi et al., 2021, p. 7), and they have a positive effect on increasing sales for businesses (Sondakh et al., 2022). YouTube's comment feature enables social engagement, interaction, and idea sharing between video creators and viewers (Xiao, 2023). In this regard, Zhao (2023) suggests that companies can improve marketing strategies by continuously monitoring and analysing user feedback and interactions on social media, implying that user comments can guide marketing communications. User comments not only help to monitor the effectiveness of marketing campaigns but also enhance other institutional communication efforts such as crisis communication (Che et al., 2023).

Ultimately, the diverse interactive capabilities of social media platforms not only provide a convenient means of reaching specific audiences, but also enhance the evaluation processes. Specifically, user comments constitute a powerful communication tool that enables direct engagement between audiences and content creators. The direct engagement shapes customer perception, brand awareness, and purchasing behaviours.

3. Research Design and Methodology

The objective of this study is to analyze the variation in user comments on video advertisements based on the type of endorsement. In this regard we employed a qualitative research design. Qualitative content analysis has a strong foundation in communication studies (Mayring, 2014, p. 39). Qualitative content analysis was chosen for its ability to systematically analyse different types of data such as user comments on YouTube video ads. Also, this method provides a deeper understanding on the user generated content and helps to explore new connections, patterns, themes and meanings.

3.1. Sample and Data Collection

The video selection process for this research was non-random due to the extensive and varied nature of the existing YouTube video population. The YouTube Ads Leaderboard, a webpage by Google that ranks the best advertisements on YouTube each month since 2017, was used as the basis for video selection. A total of 8 videos were chosen by purposive sampling, evenly split between traditional celebrities and youtubers. The videos selected from Turkish version of the website and ads are produced for Turkish market. Although limited, the comments selected for analysis offer a snapshot of public opinion on these marketing videos. Total 8493 comments were gathered from January 7 to 10, 2020. We used netlytic.org (now communalytic.org) web service to scrap the data. This service allows researchers to collect social media data from different platforms.

For the comment sample, 800 comments (100 per selected video) were randomly selected from the dataset. To select the comment sample each data is given a unique number randomly on Excel. The numbers are sorted and first 100 comments of each advertising video are coded.

Table 1. Characteristics of the sample

Channel	Endorser Type	View Count	Like Count	Comment Count	Acces Date
youtube.com/@teknosa	Influencer	1.9m	15k	2.2k	07.01.2020
youtube.com/c/RufflesTürkiye	Influencer	33m	44k	1.8k	08.01.2020
youtube.com/@LiptonTR	Influencer	1.6m	2.8k	0.174k	08.01.2020
youtube.com/@MaybellineNYTurkiye	Influencer	2.2m	20k	1.2k	07.01.2020
youtube.com/@Coca-Cola	Celebrity	2m	0.948k	1.1.k	09.01.2020
youtube.com/c/OPPOTürkiye	Celebrity	4.7m	9.8k	0.863k	10.01.2020
www.youtube.com/@mavi	Celebrity	2.1m	3.5k	0.246k	09.01.2020
youtube.com/@MagnumTurkiye	Celebrity	6.5m	10 k	0.910k	10.01.2020

Notes: m = million; k= thousand*

We choose to select an equal number of 100 comments from each YouTube channel, rather than employing a proportional stratified sampling technique. This approach makes sure that each channel is equally represented in the analysis,

Table 2. Categories and Subcategories in the Analysis of Video Comments by Wendt et al. (2016).

Category	Subcategory	Definition	Example Data
Topic	Video Content	Direct references to video elements like actors and plots.	Diger ülkelerde çekdirdikleri fotoğrafda cola ünlü her kimse onun yüzünü kapatıyor bir tek bu reklamda öyle deyil
	Brand	Mentions of specific products and/or brands enriching the analysis.	Ruffles yerken dinlemek cymhjhum
	Other Brands	Mentions of other brands and products.	Kolaya kaçma diyo yani koka kolaya kaçma diyo :D
	Advertising	Discussion of the advertising context within video content.	Abi bu reklamı ilk hintliler çekmiş deepika padukone coca cola yazınca görürsünüz
	YouTube Interaction	Sharing links, videos, and other content for user engagement.	Kanalimi takip eder misin lütfen 👋
	Off-Topic	Posts deviating from the core themes of the videos.	Ulan şu reklamı hazırlayan Kala Film veya oppo\'nun ceosu Syn weijian zhou size sesleniyorum. İşsizim, iş arıyorum :(
Pragmatic	Question	Posts containing direct queries or seeking information.	TELEVİZYONLARDA NEDEN DÖNMÜYOR REKLAM ??
	Information Provision	Posts providing explanations, insights, or additional information.	En çok ilgimi çeken Türklerin bu videoyu orjinalinden daha çok izlemiş olması 😂😂😂
	Video Recommendation	Posts suggesting other videos for user consideration.	#MerhabaArkadaşlar vlogumun linki m.youtube.com/watch**** ağlarım ya seçilmessem vallaha ağlarım
	Link to User	Posts referencing and fostering communication with other users.	merhaba enes abinin beğendiği videolar arasındaydım mail adresim :ag******@gmail.com
	Insult	Posts containing offensive language or derogatory remarks towards other users.	Mezar taşı reklamı olsa anlarımda magnum ne alaka ya
	Joke	Humorous posts injecting a light-hearted element into the commentary.	Enes Abinin videolari ile okula döndüğünüzü düşünürsek -0:sınıfta kaldın
	General Conversation	Personal anecdotes, non-topical reactions, or casual discussions between users.	Abi telefonuma şarkıyı indirilyrum açılmıyor 😡 çıldıracam direkt başlamadan başka şarkıya geçiyor
	Compliment	Positive statements expressing approval or admiration.	Çok güzel reklam oldu harika
	Critique	Negative statements providing feedback or criticism.	Bedava verseler kullanmaz bu telefonu sıla😡😡😡
	Approval and Opposition	Reflecting the evolving dynamics of the discussion by cataloguing agreements and disagreements within comments.	Aynen ya ben de izlediğimde aklıma ilk o gelmişti dhsvhshshs
Sentiment	Positive Assessment	Compliments, approvals, and oppositions on critique, constituting a positive evaluation.	diğer ülkelerin reklamlarına da izledim. Oyunculuk anlamında en güzeli bizimki.
	Negative Assessment	Critiques, approvals on critique, and opposition on compliments, forming a negative evaluation.	Şu aptal da reklamda oynadıya ÜLKE harbi kötüleşmeye başladı midem bulanıyor şunu görünce 🤮😖
	Mixed Assessment	Posts presenting a blend of positive and negative sentiments, or neutral comments that showcasing the nuanced nature of user assessments.	YA O KADAR UĞRAŞTIM VİDEOM İÇİN AMA SEÇİLMEDİ YA DA GÖRMEDİ ENES BATUR AMA BEN PES ETMİCEM

which is crucial when each channel's comments are considered equally significant. Moreover, this method simplifies the sampling process, making it more straightforward and efficient to implement. Additionally, by selecting an equal number of comments, we minimize potential biases that could arise from channels with disproportionately larger comment volumes, thereby ensuring a balanced representation across all channels. This strategy is particularly beneficial for comparative analysis, allowing for consistent and meaningful comparisons between the channels.

The attributes of the sample are detailed in Table 1.

3.2. Coding Scheme and Procedure

In this study, we employed deductive category assignment (Mayring, 2014, p. 95). In this analytical method researchers utilize a pre-coded coding scheme which is obtained from previous research and theory.

The data is systematically coded by applying these categories to the text. This approach is especially valuable when there is a well-defined theoretical framework directing the research and when particular facets of the data are the main focus. In our study we used the coding scheme formulated by Madden et al. (2013) and refined by Wendt et al. (2016) for analysing user comments on YouTube video ads to delineate main and subcategories. The main and subcategories of the coding scheme is detailed in Table 2.

To ensure reliability, multiple researchers independently coded a subset of comments and compared results to reach a consensus and to ensure consistency with the established coding scheme. We used Cohen's Kappa statistic to assess inter-coder agreement (Kappa = 0.75). When disagreements occurred, we implemented a correction process to resolve discrepancies between the two researchers' assessments. The final coding results were determined after discussing and reconciling the differing codes.

A compilation of 800 randomly chosen comments was systematically categorized into three overarching groups. Each category sheds light on distinct facets of user interaction. NVivo was used for the coding process.

The primary categories are 'Topic,' which reveals the subject matter discussed; 'Pragmatics,' which delves into the communication styles exhibited; and 'Sentiment,' which offers insights into the emotional undertones of user assessments towards brands. Table 2 presents a detailed breakdown of these main and subcategories.

4. Results

The study's analytical framework systematically examines differences between traditional celebrity and youtuber ad videos across main and subcategories. Frequency of codes are systematically presented in a table providing a comprehensive overview. Topic, Pragmatic and Sentiment themes and their sub-categories are analysed in detail in the following sections. The analysis reveals the characteristics and interrelationships of comments concerning topics, pragmatics, and sentiments related to various endorsement types in the ad videos, presented in Table 3.

Table 3. Frequency distribution of Topic, Pragmatic and Sentiment themes according to celebrity and youtuber categories.

	Codes	Celebrity	Youtuber
Topic	*Brand*	48	22
	Off-Topic	69	31
	Video Content	243	325
	Advertising	36	10
	Other Brands	4	8
	Youtube Interactions	1	4
Pragmatic	*Approval&Opposition*	27	9
	Compliment	124	104
	Critique	53	87
	General Conversation	96	101
	Information Provision	20	13
	Insult	17	8
	Joke	20	45
	Link To User	2	11
	Question	35	20
	Video Recommendation	4	3
Sentiment	*Positive*	158	149
	Mixed/Neutral	182	168
	Negative	60	83

4.1. Topics

Specifically, elements such as storyline, musical score, and actor performances are significantly prominent in the comments. The comments on videos endorsed by youtubers notably place a strong focus on visual content, a reflection of the growing popularity of influencers in this field. Celebrities surpass youtubers in brand discussions, suggesting a stronger emphasis on brand-related aspects in the former. This highlights the significance of brand recognition in promotional videos featuring celebrities. Additionally, videos with celebrity endorsements show a heightened focus on brand elements. This aligns with the long-standing perception of celebrities as the face of traditional advertising, endorsing, and promoting brands or products.

4.1.1. Brand

In the brand category, user comments are related with positive feedback, loyalty, and approval or disapproval towards endorsement choice of the brands. Celebrity endorsements boost reliability and trust if consumers value the brand's choice of celebrity and the favourable influence on their perception. Such comments "Sıla Gençoğlu'na hayranlığım dan dolayı OPPO kullanıyorum. Teşekkür ederim süper yaaa oppo 😉🤣" indicates this loyalty and approval towards celebrities and its transfered value towards the brand. There are also comments that show the disapproval of the users for the endorsers choice of the brand like "ulan ajdaya para vereceğinize dondurmalara her ay zam yapmayin 6 liraya magnum mu olur !!!😡😡". The comments in the brands category demonstrate that youtuber endorsements improve personal connection and relatability; users reflect positive feedback and more loyalty to the brand. Comments like "Ben zaten doğma büyüme liptonluyum" are examples of this loyalty attitude. Comments in both categories indicate the brands' strengths and the efficacy of the endorsement choices, but the main difference is the type of involvement of the users. Comments on celebrity endorsements support trust and reliability, and

comments on youtuber endorsements focus on personal connection and relatability.

4.1.2. Video Content

Celebrity and youtuber-endorsed YouTube ads both effectively engage users, however in slightly different ways under the video content category. Celebrity endorsements frequently pique *users' interest*, with many users wanting to learn more about the celebrities, and they tend to improve *brand perception and loyalty* due to the celebrities' influence. Celebrities frequently get positive feedback and admiration for their high-quality, entertaining content, as well as humour and comparative remarks. On the other hand, Youtuber endorsements get positive comments and appreciation mostly for their personal appeal and content originality. Through humour, relatability, and personal connections, they also inspire high degrees of involvement. Many times, viewers offer ideas and helpful criticism to show their support for ongoing advertisement campaign. Although both kinds of endorsements produce interesting and memorable material, celebrities usually use their well-known reputation to shape brand impression, while Youtubers rely on their personal relationship with the audience to improve involvement and relatability.

4.1.3. Advertising

In the advertising category, the analysis of comments on celebrity and youtuber endorsers indicates distinct features. Positive feedback for celebrity endorsements under the advertising category emphasises their production quality and effectiveness. However, Youtuber advertisements receive praise for their entertaining nature and relatability. Comments on celebrity ads tend to offer objective observations and comparisons, demonstrating a more analytical approach. In contrast, comments on Youtuber ads sometimes show more personalised viewpoints by including suggestions and personal preferences. From this observation we can suggest that there are different user expectations and receptions by the endorsement types.

4.1.4. Off-Topic

A significant portion of the comments that fall into this category consists of comments that are not relevant to the context at hand and some of the comments that fall into the off-topic category are difficult to place in any category due to their content and meaning, and. It was found that there was no significant difference between the content of celebrity endorsers and that of YouTube endorsers; however, when it came to the number of comments that were made, it was found that celebrity endorsers had a greater number of comments that were not related to the theme.

4.1.5. Other Brands & YouTube Interactions

In these categories, there is insufficient data to provide a final evaluation. However, under both celebrity and YouTube categories, users compared the ads with other brands' ad campaigns, or in a few instances, they mentioned different products. YouTube interactions refer to comments made by users when they share YouTube links, and there are more instances under the YouTube category that demonstrate a higher level of interaction between users.

4.2. Pragmatics

Celebrities garner more compliments than youtubers, who, conversely, receive more criticism. This implies that celebrities are regarded as more favourable or likeable by prospective customers in contrast to youtubers. Celebrities' admiration stems from their established reputations, roles requiring specific skills, and enduring association with traditional advertisements. Conversely, youtubers attract more criticism, possibly due to perceptions of less skill and their emerging status among the younger generation. The prevalence of humour in comments on Youtuber videos likely reflects their audience's preference for a humorous style. For other pragmatic categories, such as approval, general conversation, and information provision, among others, the analysis shows no significant

differences between the two types of endorsements.

4.2.1. Approval

While both celebrity and Youtuber endorsers get approval for their impact and content, the type of this approval differs in the category for approval. While Youtubers are praised for their originality, personal interactions, and authenticity, celebrities are praised for their public persona and professional activities. This difference emphasises the several roles and expectations that different audiences of these two kinds of influencers place on them.

4.2.2. Compliment

Frequently, people compliment celebrities for their appearances style, charisma, singing or performance ability. Users also praise celebrities for their impact and sponsorships and commercials. On their niche skills, relatability and authenticity, quality and inventiveness of their content, youtubers are praised, though. The motivating or instructive power of Youtubers' original, friendly, and humorous video ads is much valued by users. Although both youtubers and celebrities are valued for their work, their compliments reflect the expectations and relationships of their different audiences.

4.2.3. Critique

Users of both categories criticise the quality of the material, pointing out supposed shortcomings including inadequate originality or production value. The emphasis varies, though, in terms of authenticity and behaviour; for Youtubers, users express criticism of alleged lack of sincerity or commercialisation, while for celebrities, comments often centre on inappropriate behaviour or words impacting their public image. Furthermore, while celebrities are attacked for mismatched sponsorships and unmet public expectations, Youtubers also suffer criticism on the relevance of their material as well as audience interaction. Reflecting their different roles and approaches of

public interaction, these comparisons show the complex expectations and standards consumers have for celebrities against Youtubers.

4.2.4. General Conversation

When comparing the general conversations category for celebrity and youtuber endorsers, we observe both common and distinctive elements of *user engagement*. Reflecting a range of user interests and conversations on personal opinions, public image, and behaviour, both categories cover a broad variety of subjects. While comments on youtubers generally focus on their *personal life* and *social media presence*, comments on celebrity-endorsed ads often focus on more *public appearances* and *controversial remarks*. Although both groups exhibit high degrees of user engagement, youtubers receive more comments on their direct audience interactions like live streams and personal interactions. Both celebrities and youtubers start general discussions, however youtubers encourage their audience to have a closer and more interactive relationship which is a part of Youtube's media logic.

4.2.5. Information Provision

The category on information provision for celebrity and YouTuber endorsers demonstrates the role that users play as *sources of contextual and factual information*. Users share their comments on factual updates, such as "Hindistan'da bu reklamda Deepika rol almış çok güzel." They also correct some of the conversational errors, such as "Colaya kaçmayın gizili mesaj." These remarks are important for keeping other users updated about recent events, providing information, and ensuring the accuracy of the exchanged information. This category highlights the informative value of user involvement, in which case the emphasis is on spreading knowledge and elucidating details regarding celebrities and YouTubers.

4.2.6. Insult

The insult category for celebrity and youtuber endorsers reveals similar trends of offensive language and personal attacks. Often without constructive criticism, both groups have *rude and insulting* comments targeted directly at the individuals. While insults include strong criticism and dislike towards their *actions or presence* for youtubers, insulting comments often target the age and *appearance of celebrities*, sometimes damaging brand perception. Both groups highlight the entirely negative character of these exchanges since users show general hostility and dislike. The lack of helpful criticism emphasises the emotional intensity and personal character of these negative remarks since Youtuber insults also influence related companies.

4.2.7. Joke

The Joke category for both Youtuber and Celebrity endorsers reflects a humorous interaction with the content. For celebrities, jokes frequently consist in *parodies*, *cultural references*, *comical criticism*, and increasing involvement with fun remarks. "Sene 2035 . Burulay öldü mu? Evet. Ajda pekkan cenazede bir ağladı bir ağladı...😂" is one of the examples of this comical criticism about celebrity endorsers. For Youtubers, too, joke comments consist of light-hearted comments, cultural references, and satire. For instance, comments like "TeknoSelamunAleyküm :D" and "2 kişinin bildiği sır değildir :)" contain cultural references for youtuber endorsed video ads. Although both genres employ comedy to captivate viewers, Youtuber interactions usually highlight relatability and personal connection in line with their content.

4.2.8. Link To User

The celebrity endorser category was excluded from the link to user category due to the limited amount of data for this category. Due to the content and nature of the advertisements, as well as the fact that youtuber endorsers promote interaction, more interactions between users occurred in the youtuber category. The endorser

type directly influences this category, resulting in a greater number of interactions for the YouTube endorsers, which is more likely to happen.

4.2.9. Question

Within the question category, users frequently turn to both celebrity and youtuber endorsers for a variety of purposes, such as seeking information, clarifications, opinions, and driving engagement. When it comes to celebrities, users often inquire about the specifics of video ads and the level of celebrity involvement. An example of such a question could be "Bu reklam hangi kanalda yayinlandi?" Similarly, Youtubers frequently receive questions from users about the content's specifics, such as "Bu videoyu hangi programla editlemiş?" Both groups also have questions that seek clarification on various aspects of their content, opinions, and recommendations, thereby fostering engaging discussions within the community. As an illustration, individuals may inquire about the opinions of others regarding a celebrity endorsement or the content of a popular youtuber's channel.

4.2.10. Video Recommendation

Regarding both of the categories, the data for the video recommendation category is rather limited for an evaluation.

4.3. Sentiment

The sentiment analysis reveals that the dataset exhibits predominantly consistent patterns. Overall, sentiments across both types of videos are mixed, with a noticeable prevalence of positive attitudes. However, youtuber-endorsed video ads tend to attract more negative comments, reflecting the higher level of criticism observed.

4.3.1. Positive Sentiments

For youtubers and celebrities, positive comments are mostly approvals. Users in the celebrity category usually emphasise the quality of the video content and express satisfaction with words

like "Kıskananlar çatlsın, çok güzelsin bebemmm 😃". Positive brand comments like "Sanırım bu gördüğüm en iyi coca cola reklamı" indicate users favour ads. These comments mainly express compliments or approval, so reflecting positive feedback. Youtubers receive positive feedback on their engagement and video quality. Youtubers' endorsed video ads are valued for their information, entertainment value, and inventiveness. Positive comments could be evaluated as compliments or approval, so expressing respect of the efforts of the YouTubers.

4.3.2. Negative Sentiments

Particularly in video content and brand categories, negative celebrity sentiment comments reflect users' criticism and disapproval. Many times, users criticise videos for lacking content or quality. These criticisms or disapprovals reveal consumers' dissatisfaction. Negative brand comments highlight marketing concerns by referencing consumers' negative experiences with advertising and promotion. Video material of poor quality, boring subjects, and false information is another target of criticism by YouTubers. Users may also find the YouTuber's behaviour or viewpoint objectionable. Complaints and criticism point to audience discontent.

4.3.3. Neutral/Mixed Sentiments

Comments for celebrity endorsements with neutral sentiment are objective and instructive. Usually, these remarks on ads are neutral and either instructive or descriptive. Usually, brand comments about ads and promotions offer objective facts or general comments. Most brand comments are neutral or mixed of emotional expression. Users also provided objective and instructive comments expressing neutrality towards YouTuber-endorsed ads.

5. Discussion and Conclusion

This study aims to understand the difference of the user reactions towards traditional celebrity and

youtuber endorsements in advertising campaigns. The main research question addressed was what is the overall impact of celebrity endorsements versus online influencer endorsements on user comments' YouTube video ads? The overarching question was further operationalized into three sub-questions on influence on the topics of comments, styles of communication in comments, and on emotional content of user comments.

The research contributes three valuable insights to the literature on marketing communication and celebrity endorsement. Firstly, we found that celebrity endorsements lead to more discussions about brand elements, while YouTuber endorsements focus more on video content. Secondly, celebrities receive more compliments and are viewed more favorably, whereas YouTubers attract more criticism and humorous comments. Thirdly, sentiments are generally mixed but mostly positive, with celebrity-endorsed videos garnering more positive sentiments and YouTuber-endorsed videos attracting more negative comments.

In terms of topic, traditional celebrities elicit many more brand-related comments, which indicates the deep-rooted perception of traditional celebrities as the image of the brand. Users love to express their admiration for the celebrity itself, which betters the reliability and credibility of the image of the brand. However, all the admiration created for celebrities is directed toward the brand that the admired celebrity endorsed.

In terms of pragmatic, comments on youtuber endorsements are a mix of critiques and compliments. It creates a form of engagement between youtubers and their audience, which is most often brought about through humour, a joking or casual way of speaking, and personal and direct interaction with other users. This denotes an informal and community-style communication on social media, which is predominantly used by the younger generation (Piehler vd., 2022). Therefore, while traditional celebrity endorsements remain a credible approach, it may be more effective for brands to leverage influencers when aiming to engage consumers who prefer to interact with brands on social media (Schouten vd., 2020).

In terms of sentiment, celebrity endorsements have more positive views in general, which can be attributed to their already-established fame/celebrity status and the professional production quality of the advertisements that they are placed within. Consistent with this result, an online experiment with 129 social media users in Russia revealed that, compared to instafamous' celebrities, traditional celebrities have a more positive impact on social media users' purchase intentions if the users have low self-esteem (Piehler vd., 2022). Additionally, Fan's (2020) study found that in non-Western societies, traditional celebrities are seen as more reliable and respected compared to social media influencers.

5.1. Practical Implications

A few strategic implications that could be taken through the view of such findings by the practitioners in the industry. Traditional celebrities can be better used for brand endorsements when intending to do build-up or make stronger the trust and reliability. This adds more value to the brand and harvests positive emotions amongst users because of the deeply etched public figure and reputation they possess. Youtubers can be better used to target young audiences and create content that relates more individually, utilize youtubers. Even though professional quality is still needed, there must be authenticity, especially when endorsing by these youtubers. This is because creating content that feels real and represents the personality of the youtuber will do the most in keeping their credibility and maintaining positive engagement. Through a keen look at user comments, a brand will be able to fully comprehend the consumer's perceptions, preferences, and needs. They should consider using sentiment analysis tools to obtain feedback on the success of the campaigns and, in return, be able to adjust the content created to better suit their strategy. Cultural differences are also part of what influences endorsement effectiveness. When using either traditional celebrities or social media influencers, a brand should adapt its endorsement strategies to the cultural expectations and values.

The study concludes with the information that the effect of traditional celebrities and YouTubers on user comments is varied within YouTube advertisements. While celebrities promote brand trust and reliability, YouTubers promote personal engagement and relatability. Understanding these dynamics, marketing professionals may be more adept in their element when it comes to crafting an advertising strategy around the strengths of both types of endorsements and eventually delivering the best approach possible for message communication and consumer engagement in today's digital age.

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RESEARCH ARTICLE

Investigation of the Effects of Violence Tendency and Moral Maturity on Attitudes Towards Physical Violence

Esra Çetinöz[1] I Fatmatüz Zehra Pehlivan[2] I Eda Aslan[3]

[1] Asst. Prof., Police Academy, Ankara/Türkiye
ORCID: 0000-0002-0924-5261
E-Mail:
soysal.esra@gmail.com

[2] Lecturer, Karabük University, Zonguldak/Türkiye
ORCID: 0000-0001-6701-3349
E-Mail:
fatmatuzzehra3593@gmail.com

[3] Post-Graduate, Police Academy, Ankara/Türkiye
ORCID: 0000-0003-3671-0322
E-Mail:
ea.edaaslan@gmail.com

Corresponding Author:
Esra Çetinöz

Abstract

Today, violence is one of the most important individual and social problems that modern society still has difficulty overcoming. The first condition for preventing or at least reducing violence in society is to be able to determine the biopsychosocial factors related to it. Therefore, the present study aimed to understand some of the psychological factors related to violence, and examined the effects of violence tendency and moral maturity on attitudes towards physical violence. A total of 398 people between the ages of 18-65 voluntarily participated in the study. The participants were selected via a haphazard sampling method, which is one of the non-random sampling methods. Demographic Information Form, The Scale of Moral Maturity, The Violence Tendency Scale, The Scale of Attitudes on Violence and The Benevolent Childhood Experiences (BCEs) Scale were used to collect the data. The results were analyzed with descriptive statistics as well as Pearson Correlation Analysis and Hierarchical Linear Regression. The results revealed that the research model explains 19% of the total variance in attitudes towards physical violence. While 17% of the change in attitudes towards physical violence was explained by the tendency to violence, only 2% was explained by moral maturity. So, the research indicates that violence tendency is an important determinant of attitudes towards physical violence. The findings are believed to be significant for the prevention of physical violence, both theoretically and in terms of practical efforts, and shed light on a more comprehensive and wider perspective in this field.

Keywords: *Voilence, Violence Tendency, Moral Maturity, Attitudes Towards Physical Violence*

Öz

Günümüzde şiddet, modern toplumun üstesinden gelmekte zorlandığı en önemli bireysel ve toplumsal sorunlardan birisidir. Toplumda şiddeti önlemenin ya da en azından azaltabilmenin ilk şartı ise öncelikle onunla ilişkili biyopsikososyal etkenleri belirleyebilmektir. Bu nedenle bu çalışma, şiddetle ilgili bazı psikolojik faktörleri aydınlatmayı hedeflemiştir. Bu amaçla çalışmada şiddet eğilimi ve ahlaki olgunluğun, fiziksel şiddete yönelik tutumlar üzerindeki etkileri incelenmiştir. Çalışmaya 18-65 yaş aralığında toplam 398 kişi gönüllü olarak katılmıştır. Çalışmada, rastlantısal olmayan örnekleme yöntemlerinden gelişigüzel (haphazard) örnekleme yöntemi kullanılmıştır. Çalışmanın veri toplama araçları Demografik Bilgi Formu, Ahlaki Olgunluk Ölçeği, Şiddet Eğilimi Ölçeği, Şiddete Yönelik Tutum Ölçeği ve Çocukluk Çağı İyiliksever Deneyimleri (BCEs) Ölçeğidir. Veriler betimsel istatistiklerin yanı sıra Pearson Korelasyon Analizi ve Hiyerarşik Doğrusal Regresyon ile analiz edilmiştir. Bulgular araştırma modelinin, fiziksel şiddete yönelik tutumlardaki toplam varyansın %19'unu açıklayabildiği sonucunu ortaya koymuştur. Bununla birlikte fiziksel şiddete yönelik tutumlardaki değişimin %17'si şiddete eğilimle açıklanırken, sadece %2'si ahlaki olgunlukla açıklanabilmiştir. Dolayısıyla araştırma şiddet eğiliminin, fiziksel şiddete yönelik tutumun önemli bir belirleyicisi olduğuna işaret etmektedir. Elde edilen bulguların fiziksel şiddetin önlenmesinde hem teorik hem de pratik çabalar açısından önemli olduğu ve bu alanda daha kapsamlı ve geniş bir bakış açısına ışık tutacağı düşünülmektedir.

Anahtar Kelimeler: *Şiddet, Şiddet Eğilimi, Ahlaki Olgunluk, Fiziksel Şiddete Yönelik Tutumlar*

Introduction

Violence continues to exist as a social problem of humanity in the 21st century and is a major public health problem. Anger, aggression, and violence intertwined with each other are phenomena that significantly affect the daily life, quality of life, interpersonal relationships, and safety of individuals. The World Health Organization (2002) defines violence as an act or threat that causes physical force or any coercion to be deliberately directed at oneself, another person or a group, resulting in or likely to result in injury, death, psychological harm, developmental delay or deprivation. Violence has also been defined as a strong, uncontrolled, extreme, sudden, relentless, conscious, collective or individual phenomenon that involves harming people or objects in varying degrees (Rogers & Follingstad, 2014). Violence is also expressed as the intense and destructive manifestation of hostility and anger towards people, animals and objects (Krug et al., 2002). Because the present study focuses on physical violence, the researchers are going to use the concept of violence to refer to behaviors such as forcing, causing physical or psychological pain, hitting, beating, injuring, torturing and an action that results in harming the person or people subjected to violence (Haskan and Yıldırım, 2012).

Violence is not just a problem of public health and peace; it also causes serious economic disruptions for countries. Every day and all over the world, thousands of people apply or taken to medical institutions and receive emergency medical, medico-legal, or other care because of violence in the form of violent crime, intimate partner violence, sexual violence, child abuse, and homicide (WHO, 2022). Indeed, the cost of violence for economies greatly exceeds the cost of prevention and intervention. For example, while the three-year cost of the Domestic Violence Prevention Act in Uganda in 2010 was just US$ 8 million, the cost of violence occurring for just one year was estimated at US$ 30.7 million (CARE, 2018). Because violence causes huge expenses for law enforcement, health care and lost productivity, it places a massive burden on national economies. According to Global Peace Index 2023 (GPI), over

the last 15 years the world has become less peaceful with the average country score deteriorating by 5 % and the economic impact of violence on the global economy in 2022 was $17.5 trillion. Because violence is a risk factor for many negative health and social outcomes for all countries, ending or significantly reducing violence is explicitly called for in the Sustainable Development Goals (SDG) by United Nations. According to WHO (2022), preventing violence will indirectly and significantly help to achieve other SDG targets like health, employment, gender issues, and urban safety as well. At the point of preventing and reducing violence, it is important to make sense of violence and to determine the factors related to it (Özgür et al., 2011).

The factors underlying violence are quite complex and therefore have been tried to be explained based on a systemic model rather than a theory. The social ecological model, which comes from a systemic perspective, suggests that violence arises from a combination of biological, psychological and social factors (Krug et al., 2003; WHO, 2002). Among the biological factors explaining violence, genetics, hormones, structural brain abnormalities, and physical and mental diseases that cause cognitive damages are pointed out (Bannon et al., 2015; Burrowes et al., 1988; Lee, 2015; Stevens, 1994). Among psychological factors, personality, psychopathology, attitudes towards violence, violence tendency, parental attitudes, early childhood experiences, values, moral maturity, inadequacy in communication and conflict resolution skills, and many others were detected (Akgün & Araz, 2014; Cornell et al., 1996; Ferragut et al., 2013; Flood & Pease, 2009; Jones et al., 2011; Palmer, 2003; Tarsha & Narvaez, 2019). Some of the social factors that explain violence are the tolerance of violence in the society, the use of violence as a problem-solving tool, media influence, gender roles, migration, and globalization (Atramentova et al., 2018; Donnerstein et al., 1994; LaFree & Jiang, 2023; Reidy et al., 2009).

Based on the social ecological model, this study focuses on four psychological factors because of the existing empirical evidence of their influence on violence. These are attitudes towards physical

violence, violence tendency, moral maturity and benevolent childhood experiences. The first factor, attitudes, has been a central concern related to violence because there is consistent evidence of an association between violent behavior and violence-supportive beliefs and values (Ferragut et al., 2013; Flood & Pease, 2009; Lopez et al., 2022). Therefore, educational and rehabilitative programs to prevent violence consistently focus on changing people's attitudes towards violence. However, in order to develop effective programs for attitude change, the factors affecting attitudes must be identified, and the programs must be prepared by taking these factors into consideration. Studies in the literature indicate that individuals' tendencies towards violence, and moral maturity levels may be important factors affecting their attitudes towards violence (Caprara et al. 2014; Palmer, 2003; Tarsha& Narvaez, 2019). Adverse childhood experiences also seem to be affective on aggression in adulthood (Erturk et al, 2020; Mumford et al., 2019). However, the effects of benevolent childhood experiences seem understudied (Redican et al., 2023).

Overall, the relationship of these factors with violence has been described in many studies. However, data on the factors affecting attitudes towards violence, which is one of the most important antecedents of violent behavior, is quite insufficient. Thus, violence tendency and moral maturity as potential factors affecting attitudes towards violence may be a way to understand the violence and to take preventive measures. Another factor, benevolent childhood experiences, which partly explains better mental health outcomes among individuals affected by adverse childhood experiences, was taken as a controlled variable in the study. Given this, the aim of this study was to assess the effect of violence tendency and moral maturity on attitudes towards physical violence.

Attitudes Towards Violence

The relationship between attitudes towards a behavior and the tendency to exhibit that behavior has been the subject of many psychological studies. Eagly and Chaiken (1998, p. 269) define the attitudes as "a psychological tendency expressed by evaluating a given entity with a certain degree of favorability or unfavorability". Attitudes are one of the most important determinants of the occurrence of a behavior, especially when there are no social norms or sanctions, or when the consequences of the behavior are in the direction of the person's desire or advantage (Anderson & Heusmann, 2003; Fazio, 1990). Attitudes have been a central concept for violence studies as well and many studies have revealed the relationship between attitudes towards violence and violent behaviors (Fraguas et al., 2020; Guerra et al., 1995; Lopez et al., 2021; Markowitz, 2001). In one important longitudinal study, Huessmann and Moise (2002) concluded that exposure to violence in the media in childhood leads to the development of attitudes that favor violence in adulthood and that this change in attitude is associated with a tendency toward violence in adulthood. There are also marked cultural differences in attitudes towards aggression and violent behaviors (Fraczek, 1985; Fujihara et al., 1999; Pakaslahti & Keltikangas-Jarvinen, 1996). For example, in one study, individuals in Spain, the United States, and Poland considered verbal violence to be relatively harmless, while in Japan and Iran, it was considered as aggressive behavior. Similarly, in Iran and Japan, aggression was seen as highly acceptable as punishment, while in Spain, the United States, Poland, and Finland an extremely negative attitude towards aggression was observed (Ramirez, 2001).

Fazio (1990) suggests that the more clearly a behavior and attitude toward it is defined, the greater the power of that attitude to predict that behavior. Therefore, determining the attitude and behavior relationships is very important for predicting violent behaviors, designing violence prevention programs, and improving the existing ones. However, to improve understanding of the determinants of violence and to design more effective violence-prevention tools, the factors affecting attitudes towards violence must be determined and, as the literature indicates, violence tendency, moral maturity and childhood experiences may be influential factors in attitudes towards violence (Jones et al., 2011; Lee, 201; Mumford et al., 2019; Palmer, 2003; Pinos et al., 2016).

Violence Tendency

Violent behaviors differ from person to person in terms of direction, severity or type. Under the same conditions, while one individual resorts to violence, another individual does not, suggesting that some personal factors can be related to violence (Hawkins et al., 2000). So, it can be suggested that people vary in their tendencies towards violence. While violence tendency refers to the physical aspect of aggression, such as physically hurting, hitting or crushing others (Anderson ve Bushman, 2002), it also consists of individuals' feelings and thoughts related to violence. Therefore, this concept is not limited to individuals' violent behaviors. Thinking that the use of violence is justified was also considered as a tendency to violence. (Haskan and Yıldırım, 2012).

Studies have shown that a tendency towards violence begins to manifest itself in the preschool and primary school years and that an early tendency towards violence is an important risk factor for these individuals' own children in the next generation as well (Eron et al., 1971; Farrington, 1982; 1995, 2002; Huesmann et al., 1984; Huesmann & Moise, 1998; Loeber & Dishion, 1983; Magnusson et al., 1975; Olweus, 1979). When the long-term course of the tendency towards violence is examined, it has been determined that in most children who exhibit both low and high levels of aggression, this tendency continues into adulthood, in some it ends, and that the incidence of those who do not exhibit this tendency in childhood but in adulthood is very rare (Brame et al., 2001; Huesmann et al., 2009).

There are some factors affecting violence tendency. One of the leading sources of violence tendency is the family factor. Witnessing violence in the family, exposure to violence, low socio-economic level, psychological and social deprivation in the family, domestic neglect and abuse are seen as risk factors in the development of aggression and violence (Coşkun and Bebiş 2014; Kashani et al., 1992). Communication, interaction or conflict within a family and inconsistent disciplinary practices applied by parents are also evaluated as individual risk factors (Clark, 2009; Leary & Tangney, 2012). So,

childhood experiences seem to be very important for developing a tendency to violence. The media is also an important risk factor for violence tendency. In his review, Huessman (2007) emphasizes that many experiments have demonstrated that exposure to media violence immediately increases the likelihood of aggressive behavior for children and adults in the short run. In addition, developmental disorders due to prenatal, perinatal and postnatal complications, low intelligence, learning difficulties, psychological disorders (psychosis, anxiety, etc.), attention deficit and hyperactivity disorder, personality disorders related to aggression, anti-social personality traits, exposure to violence in early life, low tolerance to frustration, poor impulse control, low problem-solving and communication skills, and substance/alcohol use have also been shown among the risk factors that increase the tendency to violence (Reid, 2006; Clark, 2009). Therefore, it can be suggested that educational or rehabilitative programs designed to prevent or reduce violence by changing attitudes should not be implemented by ignoring these individual differences that create a predisposition to violence.

Moral Maturity

Morality is another factor that is related to attitudes towards violence. It is defined as the set of principles and rules that guide individuals, and all the rules of behavior that are good and correct (Köknel, 2006: 111). Bandura (1986, 1999, 2001) made a major contribution to the field of morality with social-cognitive theory by putting forward the concept of moral disengagement. Moral disengagement refers to a psychological scheme that causes a person to violate his own moral rules by mentally transforming harmful actions into acceptable actions. Therefore, a negative attitude towards an action does not guarantee that the person will not do it. The person still maintains a negative attitude towards the action, but when it is in his own interest, this mental process causes the person to depart from his own moral rules without feeling guilty (Bandura, 1991; Caprara et al., 2013; Gini, 2006).

As morality's psychological aspect, moral maturity is a personality trait that is acquired as a result of moral development and is expressed as the level of perfection in an individual's feelings, thoughts, judgments, attitudes and behaviors (Watlington and Murphy, 2006). One of the indicators of moral maturity is that a person internalizes the values accepted by society and conscientiously integrates these values and does not act in thoughts and behaviors that are contrary to these moral values (Gilligan and Attanucci, 1988). Therefore, it can be suggested that higher moral maturity is related to lower moral disengagement, as in the study of Gini (2006) which revealed that bullying children were found to be more ready to show moral disengagement mechanisms, whereas defenders against bullying showed higher levels of moral sensibility. For this reason, moral maturity is a concept that deserves studying as an important factor related to attitudes towards physical violence, and it has the potential of increasing the predictive value of attitudes towards violence.

Method

This research is designed with the relational survey model, which aims to examine the effects of violence tendency and moral maturity on attitudes towards physical violence. Because it focuses on determining the presence, degree, and direction of the relationship between multiple variables, the relational survey model is suitable for this research objective (Karasar, 2012).

Participants and Procedure

In the study, a haphazard sampling method, which is one of the non-random sampling methods, was used. Data was collected from online responses to survey questions prepared via the Qualtrics program. The Informed Consent Form was presented to the participants, then the scales were provided. In order to eliminate the order effect, the demographic information form was kept constant at first and then the other scales were presented to the participants in a different order. The forms were sent to 482 people between the ages of 18-65 and a total of 398 people (246 female and 152 male)

voluntarily participated in the study (*Mean* = 29.9, *SD* = 8.5, *N* = 398). The average response time was 15-20 minutes. The G*Power 3.1.9 program was used to calculate the number of participants in the study. While calculating the effect size for the parameters specified according to the type of test was examined through a literature review, but no study was found where the variables in the study were of the same. For this reason, Cohen's (1988) effect size table was used for regression analysis, and 0.08, which is approximately between small (0.02) and medium (0.15), was taken as 0.05 for the margin of error, 0.95 for the power value, and 4 for the number of predictors. As a result of the calculation, the minimum number of participants was found to be 237. Descriptive statistics regarding the demographic characteristics of the participants are given in Table *1*.

Table 1. Demographic Characteristics of Participants

Variables	Frequency (*f*)	Percentage (%)
Gender		
Women	246	61.8
Men	152	38.2
Education		
Literate	2	0.5
Primary School Graduate	5	1.3
Secondary School Graduate	8	2.0
High School Graduate	78	19.6
Associate Degree	38	9.5
Bachelor's Degree	197	49.5
Master's Degree/Doctorate	70	17.6
Marital Status		
Single	238	59.8
Married	136	34.2
Living Together	5	1.3
Divorced	19	4.8

Materials

Demographic Information Form: Participants' age, gender, educational status, and marital status were asked through the demographic information form.

The Scale of Moral Maturity: It was developed by Kaya and Şengün (2007) to evaluate the moral maturity levels of individuals based on behavior. The scale is a five-point Likert self-assessment scale with 1 "No, never" and 5 "Yes, always". The scale has a total of 66 items, 14 of which are reversed. High scores obtained from the scale indicate higher moral maturity. For the reliability

of the Moral Maturity Scale, the test-retest reliability coefficient was 0.88, the split-half reliability coefficient was 0.89, and the Cronbach Alpha reliability coefficient was 0.93. The Cronbach Alpha internal consistency coefficient determined for the whole scale was 0.91 in this study. A reliability coefficient of 0.70 or higher indicates that this scale is sufficient for reliability in general (Büyüköztürk, 2004). A confirmatory factor analysis was conducted to assess the factor structure of the scale. The fit indices for the confirmatory factor analysis (CFA) results of the scale are as follows: χ^2 / sd = 2.14, p <.001, CFI = .86, TLI = .84, RMSEA = .05, SRMR = .06.

The Violence Tendency Scale: This scale, which aims to measure the violence tendency levels of individuals, was developed by Haskan and Yıldırım (2012). The scale includes four sub-dimensions. These are feelings of violence, violence through information technologies, the thought of harming others and inflicting violence on others. The Violence Tendency Scale is a triple Likert scale that covers the range from 1 "never" to 3 "always". The scale consists of 20 items, one of which is reversed. High scores obtained from the scale indicate a higher violence tendency. As a result of the analysis, the Cronbach Alpha internal consistency coefficient was found to be 0.87 and the test-retest reliability coefficient was calculated as 0.83. The Cronbach Alpha internal consistency coefficient determined for the whole scale was 0.82 in this study. A confirmatory factor analysis was conducted to assess the factor structure of the scale. The fit indices for the confirmatory factor analysis (CFA) results of the scale are as follows: χ^2 / sd = 2.62, p <.001, CFI = .89, TLI = .87, RMSEA = .06, SRMR = .05.

The Scale of Attitudes on Violence: The scale developed by Velicer, Huckel, and Hansen (1989) and updated by Anderson, Benjamin, Wood, and Bonacci (2006) was adapted into Turkish by Özkan et al. (2018). The scale consists of 46 items. The answers given to the questions in the scale are in the form of a 7-point Likert, ranging from 1 "strongly disagree" to 7 "strongly agree". As a result of the analysis, the reliability coefficient (Cronbach's Alpha) for the scale was calculated as 0.94. The reliability coefficients (Cronbach's

Alpha) for the sub-dimensions of the scale were calculated as 0.76 for punishment-coded violence, 0.87 for war-coded violence, 0.81 for physical violence, 0.89 for interpersonal violence, and 0.85 for intimate violence. In this study, the physical violence sub-dimension of the scale was used. A confirmatory factor analysis was conducted to assess the physical dimension of the scale. The fit indices for the confirmatory factor analysis (CFA) results of the scale are as follows: χ^2 / sd = 3.71, p <.001, CFI = .87, TLI = .85, RMSEA = .08, SRMR = .06.

The Benevolent Childhood Experiences (BCEs) Scale: The Turkish validity and reliability of the scale was conducted by Gunay-Oge, Pehlivan, and Isikli (2020). The Benevolent Childhood Experiences (BCEs) Scale, which was recently developed by Narayan, Rivera, Bernstein, Harris and Lieberman (2018), is used to assess positive childhood experiences in the first 18 years of life. Items pertained to perceived safety and support (e.g., at least one safe caregiver, at least one good friend) and internal and external motivation (e.g., beliefs that gave comfort, enjoyment of school, a teacher who cared). The scale consists of 10 questions which are answered as yes, or no. A higher number of questions answered with "yes" indicates higher levels of positive childhood experiences. The scale has demonstrated adequate psychometric properties (Narayan et al., 2018). This self-report scale consisting of 10 items in the form of yes/no questions has been developed to collect data about positive experiences during childhood. The internal consistency coefficient was found 0.61, the test-retest validity coefficient was found 0.91. A confirmatory factor analysis was conducted to assess the factor structure of the scale. The fit indices for the confirmatory factor analysis (CFA) results of the scale are as follows: χ^2 / sd = 3.78, p <.001, CFI = .85, TLI = .80, RMSEA = .08, SRMR = .05.

Procedure

The SPSS 23 program was used in the statistical analysis of the data. First, Pearson Correlation Analysis was conducted to examine the relationship between violence tendency, moral

maturity, physical violence, age, and benevolent childhood experiences. Then, Hierarchical Linear Regression (HLR) was conducted to investigate the effects of violence tendency and moral maturity on physical violence. Age and positive childhood experiences were entered consecutively in each set to control the effect of violence tendency and moral maturity on physical violence.

Findings

Pearson Correlation Analysis was conducted to test the relationship between the study variables. The results showed that violence tendency had a statistically significant relationship with both age and attitudes towards physical violence. There was a small-sized negative relationship with age ($r = -0.13$, $p < 0.05$) while the relationship between violence tendency and attitudes towards physical violence was medium-sized and positive ($r = 0.40$, $p < 0.05$). It was found that moral maturity also had a statistically significant relationship with both age, benevolent childhood experiences and physical violence. Moral maturity had a small-sized positive relationship with age ($r = 0.21$, $p < 0.05$) and benevolent childhood experiences ($r = 0.17$, $p < 0.05$), while a medium-sized negative relationship with attitudes towards physical violence ($r = -0.40$, $p < 0.05$). However, attitudes towards physical violence had no statistically significant relationship with age ($r = 0.03$, $p > 0.05$) and benevolent childhood experiences ($r = 0.02$, $p > 0.05$) (Table 2).

Table 2. Zero-order correlations between study variables

	1	2	3	4	5
1- Physical Violence	1				
2-Age	0.04	1			
3-BCE	0.03	-0.01	1		
4-Violence Tendency	0.40*	-0.13*	0.07	1	
5-Moral Maturity	-0.03	0.21*	0.17*	-0.40*	1

Note: BCE=Benevolent Childhood Experiences. * $p < 0.05$

three-stage hierarchical multiple regression was conducted with attitudes towards physical violence as the dependent variable. Age and benevolent childhood experiences were entered into the equation at the same time. Violence tendency was entered into the model in Step 2. The addition of violence tendency significantly contributed to the model ($p < 0.05$). Then, moral

maturity was entered in Step 3 to test its effect on attitudes towards physical violence. The addition of moral maturity at the last step significantly contributed to the model ($p < 0.05$).

The model had a medium effect size ($f^2 = 0.47$) in Step 2 when violence tendency was added into the model. After the addition of moral maturity to Step 3, where both violence tendency and moral maturity entered the model, there was a small change in the effect size ($f^2 = 0.48$) but the model still has a medium-sized effect (As a result, it was determined that violence tendency and moral maturity had a statistically significant effect on attitudes towards physical violence after controlling for age and positive childhood experiences. The research model explains 19% of the total variance in attitudes towards physical violence. While 17% of the change in attitudes towards physical violence was explained by the tendency to violence, 2% was explained by moral maturity.

Table 3). As a result, it was determined that violence tendency and moral maturity had a statistically significant effect on attitudes towards physical violence after controlling for age and positive childhood experiences. The research model explains 19% of the total variance in attitudes towards physical violence. While 17% of the change in attitudes towards physical violence was explained by the tendency to violence, 2% was explained by moral maturity.

Table 3. Hierarchical regression examining incremental validity of Violence Tendency and Moral Maturity in predicting Physical Violence

	R^2	ΔR^2	β	f^2
Step 1	0.002			0.05
Age			0.03	
BCE			0.03	
Step 2	0.171	0.169		0.47
Age			0.09	
BCE			-0.00	
Violence Tendency			0.41**	
Step 3	0.188	0.017		0.48
Age			0.06	
BCE			-0.01	
Violence Tendency			0.47**	
Moral Maturity			0.15*	

Note: BCE = Benevolent Childhood Experiences. $R^2 = R^2$ from Step 1 of the regression; ΔR^2 = change in R^2 in Step 2; β = standardized beta coefficients. f^2 = f-square effect size. *p < 0.05. **p < 0.01

Discussion and Conclusion

This research has examined some of the important psychological factors related to violence. Although the relationship between attitudes towards violence and violent behavior has been addressed in many studies so far, investigating the factors that are effective in these attitudes will contribute to the literature for a deeper understanding of violence and for more effective practices. Therefore, in the guide of the previous research but different from them, this study particularly attempted to reveal the effect of two important factors on attitudes towards physical violence and an important contribution has been made to the very limited literature on this subject.

The main result of the present study is that violence tendency and moral maturity are important determinants of attitudes towards violence. In his social learning theory, Bandura (1983) argues that attitudes are learned through social learning and that children and adolescents who are exposed to violence in their families or environments or who observe violence will both develop unhealthy attitudes towards violence and develop a tendency towards violent behavior. Similar to the results obtained in our study, many researchers suggest that a positive attitude towards violence increases the incidence of violent behavior and that engaging in violent behavior also increases attitudes towards violence (Adilogullari et al., 2017; Dodge & Crick, 1990; Hoge et al., 1996; Lacasse & Mendelson, 2010; Pinos et al., 2016; Yagiz et al. 2020). Therefore, violence tendency, as in line with the theory and research findings, is an important determinant of attitudes towards violence.

Similarly, moral maturity is another important factor in attitudes towards violence. Moral development theory states that rule-violating behaviors can be predicted by moral reasoning both directly and indirectly (Kohlberg, 1963; Blasi, 1980). Therefore, attitudes towards violence which is an indirect way of predicting violent behaviors, can be predicted by moral reasoning. So, based on the theory, it can be expected that violence tendency and moral maturity are correlated. This hypothesis has been confirmed by many studies, as

in our study (Avcı, 2010; Bowes & McMurran,2013; Rubio-Garay et al., 2019; Visu-Petra et al., 2008). Cohn et al. (2009) emphasizes that the role of cognitive development is very important for understanding rule-violating behavior and for the development of youth prevention programs, and to detect cognitive development, researchers usually either use moral reasoning or legal reasoning by implementing different tools (Lerner at al., 2005; Raaijmakers, Engels, & Van Hoof, 2005). These studies consistently revealed that less sophisticated moral reasoning is related to more rule-violating behavior.

Another finding of the study indicates a positive relationship between benevolent childhood experiences and moral maturity. This finding corresponds with the results of other studies. Emler (1998) emphasizes that significant interpersonal relationships create cognitive schemas that filter the interpretations and evaluations of one's own and others' actions and through this process, child develops in a moral sense, whether in a positive or negative way. Similarly, Tarsha & Narvaez (2023) put forward that childhood experiences and interpersonal neurobiological development can be seen as pillars of moral functioning and positive childhood experiences lead to neurobiological structures that are apparent in social well-being. Similarly, the study of Mammen et al. (2019) found that interaction with parents is seen to contribute to the moral development of children.

A negative relationship between age and violence tendency is another finding of the study and this finding is in line with the results indicating that violence tendency decreases with age (Fountoulakis et al., 2008; Herrenkohl et al., 2000; Kennedy et al., 2011; Liu, 2011). When age and violence tendency relationship is examined, it is seen that physical violence decreases significantly from young adulthood to the age of 50-60, whereas the decrease in indirect aggression is lower and there is no significant decrease in verbal aggression (Vigil-Colet et al., 2015; Walker & Richardson, 1998; Walker et al., 2000). Researchers suggest that as people lose their strenght and the risk of being injured increases by

aging, they prefer more indirect ways of aggression.

One other finding of the study indicates a positive relationship between age and moral maturity. As Kohlberg (1963) stated in his theory of moral development, this finding is consistent with the existing literature and moral maturity, especially in relation to prosocial or justice-oriented becoming more mature with age (Colby et al., 1983; Eisenberg & Fabes, 1998; Rest, 1979; Rest, 1983). Similarly, Lawford et al. (2001) demonstrate that older children show a higher moral understanding of harm than younger ones and this indicates that as people grow, so do their moral judgements.

When we looked at the relationship between moral maturity and attitudes towards physical violence, the findings indicate a negative relationship between two. Again consistent with Kohlberg's theory of moral development, this finding reveals a similar result to the literature. In a similar study, Uygun et al. (2020) examined the relationship between moral maturity and attitudes towards animal rights and found that moral maturity is a significant predictor of attitudes towards animal rights (Uygun et al. 2020). Another study by Yıldırım (2014) found that moral maturity is a significant predictor of social maturity, and as students' moral maturity levels increase, their social maturity levels also increase. Another similar finding indicates that students who have internalized moral values tend to have lower levels of violence and aggression (Avcı, 2010). Therefore, we can suggest that as moral maturity increases, attitudes in favour of physical violence decrease.

The relationship between age and attitudes towards physical violence was another finding of our study and the result revealed no significant relationship between these variables. Existing literature seems to reveal controversial results on this issue. For example, while Demirtas-Madran (2018) found no statistically significant relationship between age and attitudes towards violence, Valdivia-Peralta (2018), which looked at the differences in age in a relatively narrow age group, found greater justifyed attitudes towards violence in early adolescents than in late adolescents. In another study, Borg, & Hermann (2023) found that altough the older a person, the

more negative his/her attitude toward crimes in general, some petty crimes like fare evasion, and smoking pot are exceptions to this trend. So, they suggest that the attitude towards criminal behaviors depends mostly on the seriousness of the crime, not on the age of the person. Another study on intimacy violence found that attitudes towards violence do not decrease with age, as expected in the criminology literature, but that it is related to the prolongation of the relationship process rather than to age (Johnson et al., 2015). So, the literature offers controversial results on this issue.

As the last finding, we found no significant relationship between benevolent childhood experiences (BCEs) and attitudes towards violence. The ecological systems' perspective (Bronfenbrenner, 1977) emphasizes that childhood development occurs within multiple interconnected and co-dependent environmental contexts including individual, family, school, peers and neighbourhoods, and in these different environments, BCEs may emerge as different experiences like 'having at least one good friend', 'opportunities to have a good time', 'predictable home routine' or 'having at least one caregiver with whom one felt safe'. Just like the presence of adverse chilhood experiences (ACEs), limited BCEs are also related to many unfavourable mental outcomes (Crandall et al., 2019; Doom et al., 2021; Narayan et al., 2018). When we searched for the literature, we could not find any direct study about the relationship between benevolent childhood experiences and attitudes towards violence. However, there are lots of studies on the effects of adverse childhood experiences on aggression, violence and criminality. Literature indicates that risk of arrest, aggression in young adulthood, intimate partner violence and recidivism increase with adverse childhood experiences, while positive childhood experiences act as a moderator between negative childhood experiences and recidivism. Therefore, decreases the power of relationship (Barnert et al., 2023; Dinç & Küçük, 2021; Whitfield et al., 2003). So, it seems that BCEs act as a protective factor. The effect of benevolent childhood experiences on violence seems understudied (Redican et al., 2023) and this

indicates a need for more studies about the role of the BCEs in violence.

Recommendations

In the light of the research findings, some reccomendations can be made for both future studies and applications. Since it has been determined to be an effective factor on attitudes towards physical violence and is a characteristic that emerges in early childhood and often continues into adulthood, violence tendency is a risk factor that needs to be identified and intervened in early childhood. Therefore, families, schools, and other related institutions should not ignore the problem that has just begun to emerge and should cooperate on the issue in early childhood. Furthermore, a detailed analysis of violence tendency may provide educators and policymakers with the necessary tools to develop effective educational or rehabilitative programs against violent behaviors in different contexts. Hence, to comprehensively understand the role of violence tendency in attitudes towards violence future research could benefit from integrating studies on personality, and psychopathology, and neuropsychological factors as well. In addition, since moral maturity emerges as another important factor in attitudes towards physical violence, both families and educational institutions should implement effective practices and educational programs to increase moral maturity in young children. Finally, it would be useful for future studies to conduct research on these variables with qualitative methods, with different and larger sample groups, and with different measurement tools. Similarly, as seen in the literature, since cultural differences can create significant differences in attitudes towards violence, conducting cross-cultural studies on the subject in the future would be useful in terms of generalizability of the results.

Limitations

This study has some limitations. The first limitation of the present study may be related to sample size. Although it was sufficient for the current study, expanding the research sample would increase the strength and generalizability of the findings obtained in this study. The second limitation of the study would be related to the use of self-report measures. While the use of these measures is common in survey research, it may result in inaccurate or untruthful responses because of a lack of self-awareness or social desirability.

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