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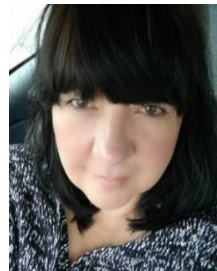
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# **Leadership and Disability in Asia in the Light of Obstacles and Insights: A Case Study Report**

**Kim Cheng Patrick Low \* Beata Borowska-Beszta \*\*<sup>1</sup>**

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## **Abstract**

*When we discuss leadership, we often discuss leadership in terms of leadership for the abled bodies; we ordinarily forget or talk less about people being disabled. In this paper, the authors discuss leadership and the disability issues. In essence, they examine the notion of how and in what ways can leaders do for persons with disabilities and for the leaders with disabilities to enable them to develop.*

**Keywords :**Leadership, leaders of the disabled, adults with disabilities, support

## **Introduction**

Many theories of leadership come from or are anchored in Western theories of leadership. Perhaps, as it is often said that history is ordinarily written by the victors; this mirrors the fact that many Asian countries except for the Kingdom of Thailand has been conquered and colonized for several centuries by the Western powers. These Western powers include chiefly Britain, France, Germany, Holland and Spain with the latecomer United States in the Philippines though the Portuguese were the first Europeans to come to Asia, after arriving in Goa in India in the fifteenth century, and then capturing Melaka in 1511, causing the collapse of the then Malaccan Sultanate founded by Parameswara in 1401. (Parameswara ruled Malacca under the reign name, Sultan Iskandar Shah). Even China endured the utter disgrace of the cutting of the Chinese melon by the European powers during the Anglo-Chinese Wars in what was dubbed as the Opium Wars, beginning in 1824 onwards (Low, 2013, 2018).

That being the case, it seems that when we talk of leadership, we are often referring to leadership for persons without disabilities; and we ordinarily forget or talk less about leadership for and of the disabled. Hence in this paper, we would like to talk about leadership and the disabled, that is, how and in what ways can leaders do for people with disabilities and for the disabled leaders as well as?

It is worthy to note that when examining business and society, among other things, Lawrence and Weber (2008, p. 48-50, also cited in Low, 2013, 2018) spoke of social responsibilities and how corporate social responsibility began; more so, thus, the issue of leadership should be discussed in relations to the disabled people to make it more complete.

## **Defining Leadership and Disability**

### *Leadership*

Leadership is “about creating the climate or culture where people are inspired from the inside out” (Wilson, 2008 p. 9, also cited in Low and Ang, 2012, p.99). “A caring leader acts in a kind, empathetic way towards his or her people and environment. (S)he tries to do them as little harm as possible and also enable them to attain happiness and live well in the conducive environment. Love or compassion has to start from the top for society, the people at the top setting the example and the followers would feel its positive effects” (Low and Ang, 2012, p.99).

Leadership is the ability to influence one’s people or followers (Maxwell, 1993; Low, 2013; 2018). “Having followers, leaders influence and persuade their people. Managers have subordinates” (Low, 2013; 2018). Leadership is “responsibility” which leaders need to carry out and they need to care for their constituents (Maxwell, 1993; Low, 2013; 2018).



Leaders must be “empathetic” (Maginn, 2005, p. 43-44) and “consistent role models” to lead the changing mind growth, change and innovation among their people (Lawson and Price, 2003; Tan, 2005). So to change behaviour consistently throughout an organization (nation), it is not enough to safeguard that people at the top are in line with the new ways of working; role models at every level should “walk the talk” (Lawson and Price, 2003, Maginn, 2005) in being empathetic and supporting the disabled people.

### *Disability*

We endeavour not to discuss the theories of the leadership and the history of theoretical models of disabilities for e.g. medical model, rehabilitation model, social model or interface model as pointed Smetlzer (2007), because at the end of the day, the acid test of leadership is about delivering the goods and getting results, that is, helping and growing the disabled people, support their independence and really enabling them to participate own lives as autonomous beings. We ground our analysis on the biopsychosocial model of disability biopsychosocial as described in *International Classification of Functioning, Disability and Health (ICF)* launched by World Health Organization (WHO) in 2001.

*The International Classification of Functioning, Disability and Health (ICF)*, precise that disability is an “umbrella term for impairments, activity limitations, and participation restrictions. Disability refers to the negative aspects of the interaction between individuals with a health condition (such as cerebral palsy, Down syndrome, depression) and personal and environmental factors (such as negative attitudes, inaccessible transportation and public buildings, and limited social supports)”(World Report on Disability 2011 p.7).

This model “aims to merge the medical and social perspectives on disability by applying a multi-dimensional, relational and interactive approach, and is the current framework of disability used” (Norderyd 2017 p. 7). In biopsychosocial model of disability “human functioning is described at three levels: body, activity, and participation. The term disability comprises impairment as well as limitations and restrictions in activities and participation, while etiology is only partly accounted for. Problems with functioning are not etiology dependent. Interacting within these parameters, the biopsychosocial framework, as manifested in the ICF and the child and youth version ICF-CY, also incorporates environmental and personal factors. As such, the ICF framework illustrates the consequences of a health condition; it describes life as it is lived. The arrows are bidirectional and represent the mutual interaction between the different dimensions. The biopsychosocial framework of disability is operationalized in the ICF and ICF-CY classifications” (Norderyd 2017 p. 7).

Speaking of disability we should be aware of various dysfunctions related to developmental disabilities present since birth, disabilities acquired in early adulthood or during entire life until old ages, caused by various external or internal factors. It is also important to understand the complicity of the developmental disability phenomena as physical, sensory, intellectual or emotional-behavioural (Schalock& Kiernan, 1990). Undoubtedly, successes in adult life of disabled people are rooted in childhood. Saad Eissa (2017) analyzes the social capacities in children and adults with autistic spectrum disorders indicating the role of early intervention in entire support, that has impact on later phases of life of youngster with autistic spectrum disorder (ASD).

In addition, as Kirenko (2007) writes, “the number of people with disabilities is constantly increasing, caused by diseases, injuries and congenital disorders” (Kirenko, 2007 p. 5). There is different psychological situation is in a case of persons who became

disabled in youth and/or adulthood. Much depends of wise support of the environment and significant others, that may be teachers, supporters, mentors etc. who will help while the adaptation to living with the disability and still keeping important life goals (Borowska-Beszta 2012).

In this regard, the authors would highlight the Confucian idea that the leader is always humanistic in his/her approach in treating his people and has truly gained the devotion of his (her) followers (Sheh, 2010). That is another way of how humanism can be established – by upholding human rights and human justice. Leaders must have compassion and care for (Low, 2013, 2018) not only for the able, but also the disabled, and the leaders of the disabled.

Leaders indeed must serve; they must care for their constituents (Maxwell, 1993; Low, 2013; 2018).

## **Method**

### *Case Study*

The aim of the case study was to get the knowledge of the concept of leadership and disability as the opinion(s) of 34 academics from 3 Asian countries: Singapore, Kazakhstan and Malaysia. The research was undertaken in 2016 - 2017. The data collection was started from 7 December 2016 to 8 August 2017 as a study leaned on the concept of case study by Bassey (1999), Dul & Hak (2008) and Strumińska-Kutra & Kołodkiewicz (2012); The data collection thus took an 8-month period.

### *Project Design*

The authors of the article formulated 2 research questions about the obstacles in leadership for persons with disabilities and for the disabled leaders being active in disability environments.

- *What obstacles do they face?*
- *How and in what ways can leaders help and assist the disabled/ disabled leaders to grow?*

The authors asked focus group participants also questions about issue related to leaders without disabilities about people with disabilities:

- *What obstacles do they face?*
- *How and in what ways can leaders help and assist the disabled to grow?*

The above is examined; and the issues are discussed more in the light of leaders helping the disabled rather than that of helping the able leaders of the disabled per se.

### *Sampling and Ethical Consideration*

The purposive sample was recruited at the respective countries, and email was used to follow up after the interviews to confirm or clarify issues of discussions. Two of the first author colleagues – key informants (coming from the educational and academic field) approached one of the researchers and gave their opinion, information and suggestions about potential informants, after they knew that the authors were researching on leadership (leaders) and the disability issues as well. The informants, all from the educational or academic field, were 34 persons of both genders from 3 Asian countries: Singapore, Kazakhstan and Malaysia.

Specifying the participants of the case study, purposive sample consisted of 16 Singaporeans, 10 Kazakhstanis and 8 Malaysians. The 16 Singaporeans consisted of 8

males and 8 females and the 10 Kazakhstanis consisted of 5 males and 5 females. The 8 Malaysians consisted of 4 males and 4 females. Thus, all the countries' samples carry equal gender representation. All informants were from the age group of 40 to 50 years of age. Sekaran (2000, p. 296-7) has indicated that, the "sample sizes between 30 and 500 could be effective and appropriate for most research. Qualitative studies typically use small sample sizes because of the intensive nature of such studies". The sample size of 34 was decided because of various aspects including costs of the research, time accessibility and limited personal resources. Of importance are the criteria in selecting these informants; chiefly, the informants were: (1) citizens of the indicated above countries. (2) at least 21 years of age, and have at least worked a minimum of five years. Furthermore (3) informants should be living in the respective above countries for, at least, the past five years. All informants were then assured of their anonymity and confidentiality; and they readily volunteered much information and express oral consent for the data collection (Green & Bloome, 1997).

#### *Data Collection*

The data was collected from 7 December 2016 to 8 August 2017 as 34 face-to-face interviews, according to suggestions by Borowska-Beszta (2005, 2013), Creswell (2009), Flick (2010), Jemielniak (2012a, 2012b).

#### *Data analysis*

The data was analyzed as qualitative analysis of verbal content suggested by Mayring (2014) in search of general content commonly expressed and highlighted by informants. The authors had in mind analysis following the theory-oriented differentiation of the problem based on Mayring (2014). The author writes "content analysis, according to our definition, is characterized by two features: rule-bound procedure and the theoretical orientation of the interpretation." (Mayring 2014, p. 59). Mayring (2014) continues, that "theoretical orientation means, then, the tapping of this experience in order to achieve an advance in knowledge. What this entails concretely is that the issue in the focus of analysis must be defined precisely in advance, viewed within the context of current research on the topic, and as a rule divided into sub-issues"(Mayring, 2014 p. 59).

### **Results**

#### **Obstacle No. 1: Fewer people with disabilities are made leaders**

Clearly, not many disabled people have been appointed to leadership positions. The authors observe that not many let alone few disabled have been appointed to leadership positions. And this being the case, it is difficult for the disabled to bring authenticity, integrity, uniqueness and/ or added value to their workplaces, communities and society (West, 2015). Besides, disabled people are seen to need help, presumed not to be able to do things for themselves let alone be at the helm of their own cultural and creative lives as directors, producers, managers and administrators (Verrent, 2016). Women with disabilities, in fact, offer tremendous potential for leadership and the ability to transform communities and societies yet they are one of the most marginalized, under-served populations in the world (Ashoka, 2013). In terms of employment, never mind about leadership of the disabled, more needs to be done. In the United Kingdom (U.K.), for example, one area of diversity that is often neglected is disability. And the U.K. Government research shows that disabled people make up 19 percent of the U.K. population yet the difference between the employment rate of disabled people and the whole population in the U.K. stands at 33 percentage points (Higginbottom, 2016).

Employers are clearly missing out a large pool of talents because they still feel that disabled people are risky hires and consider the potential cost that can be linked with them (Higginbottom, 2016).

- How and in what ways can leaders help and assist the disabled people / disabled leaders to grow ?

Whatever the case may be, *“disabled who have the drive and necessary competences should be made leaders to lead the disabled people”* (24 respondents’ inputs; mentioned 24 times). These fit in with what West (2015) contended, that is, people who are disabled and/ or those who live with the disabled can be empowered influential leaders who bring authenticity, integrity, uniqueness and added value to their families, communities, leadership positions, workplaces and society. *“The disabled leaders understand the disabled well.”* (24 respondents’ inputs; mentioned 24 times). This Social Model of Leadership (SML; West, 2015) acknowledges that disabled people are apt to have developed many core empowerment and leadership skills which include empathy, emotional intelligence, communication, planning; strategising and rapport building. Besides, they have an appreciation and awareness of their own strengths and weaknesses and continuing professional development needs. One would thus strongly infer that their personal experiences with the disabled can make them more empathetic, understanding and give better leadership to the disabled.

Interestingly too, some may also argue that from the spiritual perspective, that is, the religious or even the spiritually-inclined need to learn from the wisdom gained or hard-earned lessons through suffering that people with disabilities have. People with disabilities can extend spiritual insights into physical, emotional and social suffering that the church or the religion desperately wants to hear (Deuel, 2016).

Train or empower more disabled, making sure that they have the necessary skills to lead and be good leaders. In this regard, Enabling Wales Project is moving in the right direction (see <https://www.ldw.org.uk/media/277933/enabling-wales-easy-read-leaflet.pdf> ).

## **Obstacle No. 2: National leaders appear to be caring more for themselves/ different values held**

*“Some of the (national) leaders appear to be caring more for themselves; or in fact, they are acting more for their self-interests.” “They are non-serving – or even non-caring – in their orientations and attitudes.”* (25 respondents’ inputs; mentioned 25 times). These coincide with Low and Teo’s (2015) study, that is, some leaders are basically bad leaders, they are incompetent leaders or non-leaders. Some may have misguided values (Allio, 2007; Low and Teo, 2015); they do not hold any values of compassion and care for the disabled. Some may simply hold task-oriented goals rather than being really concern for their people, the relationships factor or care for the disabled.

Some leaders purely choose their own interests above all else; they deliberately act in ways that serve their own reasons (Allio, 2007; Low and Teo, 2015). These leaders prefer hard power. Machiavelli is their mentor (Allio, 2007). In *The Prince*, based on reflections of his patron, Cesare Borgia, he advocates the practice of power as a tool and considers cultivation of fear to be more important than love. This, to the authors, seems to be the effects or aftermath of the Soviet (*Alash Orda*) tradition or style.

- How and in what ways can leaders help and assist the disabled people/ disabled leaders to grow ?

Leaders need to espouse service values. They should and need to really serve the disabled, and be serving and having service-before-self attitude and mind growth.

Instead of having a fixed or trapped mind, leaders need to have an expanded or “mind growth” (Low, 2012). It is not about mind-set for mind-set is set or cast; it is all about being open and having “mind growth” (Low, 2012) as well as aiming for continuous improvement.

Leaders, as suggested by Gaudiano and Hunt (2016), need to educate themselves. In the United States context, for example, numerous organizations and websites exist where one can learn more about employees with disabilities, and how to make the workplace more inclusive and welcoming. One can check out the U.S. Department of Labor’s Office of Disability Employment Policy and their Job Accommodation Network; the American Association of People with Disabilities (AAPD); and Cornell University’s Yang-Tan Institute on Employment and Disability; and/ or explore the history of the Americans with Disabilities Act.

### **Obstacle No. 3: They stress more on task-oriented goals**

*“Some leaders are more concerned for the tasks or goals.” “These leaders may just be so concerned with the goals.”* (25 respondents’ inputs; mentioned 25 times). (Thus, these leaders practice more of McGregor’s (1957; 1960, 2006) Theory X. They are more concerned with the bottom-line as well as the economic performance, growth and prosperity of their respective nations rather than really care for the disabled and/ or leaders of the disabled let alone able followers (Low and Teo, 2015). *“Leaders must have the brains, get the job done but they must also have the heart to care for the disabled.”* (25 respondents’ inputs; mentioned 25 times). The two respondents also highlighted that *“there are no provisions for grab bars for the disabled and ramps for the wheelchairs in buildings and buses”* (19 respondents’ inputs; mentioned 19 times). This is more applicable to leaders of developing or growing economies such as Indonesia and the former Soviet states.

- How and in what ways can leaders help to grow and assist the disabled people/ leaders of the people with disabilities?

Leaders must mind or care for the soft aspects; the people concern. At the end of the day, people of whatever sorts are assets (Maxwell, 1993) to the organization (nation).

### **Obstacle No. 1: The fight facing the facts**

As mentioned by Allio (2007), some leaders fight or struggle facing the facts; among the many historical examples are Procter & Gamble’s denial of toxicity in its Rely Tampons, Perrier’s rejection of evidence that its bottled water-contained benzene, and Coca Cola’s refusal to accept responsibility for illness produced by contaminated Cokes drunk by schoolchildren in Belgium.

Granted that leaders don’t fight against the facts, leaders tend to see that people with disabilities are a type of underrepresented minority and that this group is often overlooked when discussing Diversity and Inclusion (Gaudiano and Hunt, 2016). And this is a big issue and obstacle here; disability is not understood to be synonymous with leadership (Verrent, 2016), and people seldom talk about the disabled being leaders; hence able persons are ordinarily made leaders for the disabled.



*Solution: Leaders can help and assist the disabled people to grow by facing the facts squarely*

In Kazakhstan – and for that matter, Central Asian countries such as Uzbekistan, the Soviet past and legacy still exists. There is this lingering mind-set that frames disabilities as illnesses to be either treated or if not, hidden away. During the Soviet era, disabled children and adults were often sent away to special schools or institutions, where they had little interaction with the outside world. Even if they were not sent away, physical barriers would often prevent them from leaving their homes. People with disabilities were rarely seen in public. This is although changing today (Witte, 2017). And in Malaysia, the societal lack of knowledge and misconceptions about disability has resulted in stigma against people with disabilities and limited their access to their rights to be a part of society (Indramalar, 2017).

Although it is not just about money, but more of changing the general population's attitude, leaders still need to do more. They need to spearhead, fund and/ or encourage public education which is needed to raise awareness of disability issues among the populace. In the Singapore case, a sizeable number of Singaporeans still feel uncomfortable interacting with the disabled and that the disabled suffer being shut out from society (Tan, 2016).

Interestingly, the data from 16 Singaporean interviewees revealed that *“most people look at what the Government can or may do; but they ask little of what they themselves can do – such as the changing of mindsets and attitude towards the disabled.”* One 2016 survey relevantly showed that many Singaporeans remain uncomfortable interacting with the disabled; and to change mind-set, there is a need to create opportunities for interaction between the people and the disabled. Singaporeans support the idea of inclusion but do not walk the talk, a survey has uncovered. Only one in 10 Singaporeans is confident of interacting with special needs children (Tai, 2016). Changing the mind-set of the people and general public is not an easy task. Nonetheless, more needs to be done to promote inclusion.

And there is undeniably some urgency in this, because the number of young children diagnosed with developmental conditions, such as autism, speech and language delays and global developmental delay, has increased in the past decade (Tan, 2016).

Business leaders too or for that matter, all leaders need to be more caring and be inclusive towards people with disabilities. It is said that being inclusive can create significant revenue growth. In U.S.A. alone, people with disabilities control an estimated \$544 billion in annual disposable income (Gaudiano and Hunt, 2016). Globally, when one includes family and close friends of disabled individuals, the market reaches 2.3 billion people who control an incremental \$6.9 trillion in annual disposable income. Hence individuals with disabilities represent a substantial and largely untapped market opportunity (Gaudiano and Hunt, 2016).

In Kazakhstan, improving access to employment is one of these key first steps that leaders can adopt. Witte (2017) highlighted that in April 2014, there were 90,300 disabled people working in Kazakhstan, according to the Ministry of Healthcare and Social Development.

## **Obstacle No. 2: “Not Proactive”**

All 10 Kazakhstani interviewees spoke of, *“more needs to be done.”* Interestingly, according to an expert at the Kazakhstan Confederation of Disabled People, Zhadrasyn Saduakassov (cited by Witte, 2017) pointed out that the number of physical barriers



remaining for disabled people is “unsatisfying,” with many ramps that are “like roller coasters”. Some of these ramps are “unusable or even life threatening”, he said, citing a then-Ministry of Health and Social Protection report.

In Kazakhstan, the problems of accessibility in the urban environment for people with hearing and visual impairment are hardly considered (Witte, 2017). There is a need to increase accessibility of public transport for disabled people, look into their low wages, and bear in mind the necessary facilities in the workplace as well as rebuilding with access in mind (Witte, 2017).

And in Malaysia, it is believed that access to school and universities for young people with disabilities remains low – many schools, for instance, still do not provide access and facilities for students who use wheelchair or programs and trained personnel to assist children with learning disabilities (Azizan, 2015).

(Some of these) leaders are “not proactive”; leaders need to be pro-active (Covey, 1989; Low, 2017). “They believe that they have done enough for the disabled and for the leaders of the disabled.” (two respondents’ inputs; mentioned 17 times). What more, there are not enough planning and programs (follow-up) for the disabled. Proactive leaders and people, taking the initiative, are not reactive; instead they are hands-on, practical and “responsive” (“Be proactive”; Covey 1989, Habit 1). “Two persons in the same position may attempt or tackle the job in very different ways. One takes control, starts new initiatives or enterprises, generates constructive change, and leads proactively. The other tries to maintain, get along, conform, keep his head above water, and be a good guardian of the status quo. The first tackles issues head-on and works for constructive reform. The second ‘goes with the flow’ and passively conducts business as usual” (Low, 2017); in most ways, they are retired. And “in most cases, they really don’t want to rock the boat” (two respondents’ inputs; mentioned 11 times).

*Solution: Leaders can help and assist the disabled people to grow by being proactive, and ‘not retired’; they can act based on the suggestions or recommendations of the disabled.*

It is interesting to note these suggestions by a disability rights activist. Here, in this regard, in Kazakhstan, Yussupjanov (2016) spoke of “making (even) the polling stations during elections fully accessible for voters with all types of disabilities, not just wheelchair users”. And as a visually impaired person, Yussupjanov (2016) attested that “tactile paving, information and ballots in braille, sound devices for accessibility, and large-print ballot papers would go a long way towards helping people like me cast my vote. Visual aids for hearing-impaired people and wheelchair-accessible booths are also necessary.” But more importantly, Yussupjanov (2016; *italics authors’ words*) highlighted the need for “in-depth training for electoral commission officials (*or for that matter, government leaders*) on how to communicate with and assist people with all types of disabilities.”

What is also proactive is this move made by the Government of Kazakhstan in 2015 when the Republic ratifies the United Nations Convention on the Rights of Persons with Disabilities on January 20. With the grand, multi-year Kazakhstan 2050 Strategy aiming to improve quality of life in the country generally, Future Without Barriers focuses on Kazakhstan’s disabled citizens, to ensure they aren’t left behind as the country begins to embody its middle-income status and progress toward joining the world’s 30 most developed countries, the goal of the 2050 strategy (Witte, 2017).

### **Obstacle No. 3: Lack of ‘solid’ promotion or caring for and supporting the disabled people**

It’s more of a sizzle instead of the steak itself. There is indeed “*a lack of ‘solid’ promotion and/ or deep caring for the disabled*” (two respondents’ inputs, mentioned 11 times), and in some countries, it is just a cosmetic touch to show that the leaders care for the disabled.

A case in point is that the United Nations estimates that around 10 percent of the world’s population live with some form of disability. However, most economies, including Malaysia’s, have yet to achieve a representative rate of employment for people with disabilities (PWDs). In Malaysia, data from 2015 stated that out of the one million workers working in the public sector, only 3,741 (less than 0.4%) comprises PWDs (Esvary and Siaw, 2016).

*Solution: Leaders can help and assist the disabled people to grow by deep care/support and fulfilling the content component, and not just the sizzling part.*

They can do more for the employment of the disabled people as well as ensuring that they are not short-changed or paid lowly by their employers. The role of employment discussed by Żuraw (2008) in the context of proper vocational education and Dykcik (2010) emphasized the values of employment for disabled people. Furthermore, the various types of employments are aptly suitable for disabled people (Nadolna & Piocha, 2009). The authors indicate, the division into basic 3 types of employment suitable for disabled people as: employment in ordinary workplaces, forms of supported employment and running own business or agriculture. The authors emphasize that disabled people planning to run their own business requires specific competences, especially “knowledge in the field of marketing and management, accounting, tax settlements and others”(Nadolna & Piocha, 2009). In our opinion competencies mentioned above and proper education need to be supported by leaders.

They can also promote the participation of the people with disabilities in physical activity and sports as mentioned by Sahaj (2013), Niedbalski (2015a, 2015b). Particularly so, Niedbalski (2015b) highlighted the other advantages of participation in sports activities by disabled people as their route to social integration. The author described the concept of social integration of the disabled people, in which crucial role is played by sports activity.

### **Obstacle No. 4: Cutting the budget or less provisions for the disabled people**

At times, “leaders also cut the budget(s) and these may affect the well-being of the disabled”; “*they were upset and they have to seriously re-adjust and these affect the disabled very much.*” (16 respondents’ inputs; mentioned 16 times). These match with what was highlighted by O’Hara (2016), the Norfolk County (U.K.) case. She cited these:

Martin needed multiple hospital visits a year as well as regular visits from district nurses. Then he began receiving a personal budget and used it to access the gym and go on short holidays. The result has been fewer trips to the hospital and improved health, wellbeing and confidence.

Martin’s needs remain unchanged, but Norfolk county council has now cut his personal budget, leaving him extremely worried that his physical and mental health will deteriorate. Without help from the personal budget, he is more likely to end up turning to expensive NHS hospital visits.

Note that the above applies to a developed economy, but what happens when it comes to resource allocation in short-of-money or short-of-resources developing or growing economies such as in former Soviet states, in countries such as Uzbekistan and others

where the priorities are more on economic development and the overall welfare of the ordinary people in which case, it excludes the disabled and their being take care of.

*Solution: Leaders can help and assist the disabled to grow by having greater budgetary provisions for the disabled.*

There should not be talk only with little actions; budgets should be there, and not be cut or reduced. Interestingly so, it should be noted that the (servant) leader every time empathizes, at all times accepts every one as they are. *“Leaders carve their names in the disabled’s heart when they accept the disabled as they are.”* (These were expressed by all 16 interviewees – Singaporeans; and were mentioned 20 times.) More budgets should thus be allocated for the disabled; and when allocated not cut.

Indeed people grow taller when those who lead them empathize or understand and when they are accepted for what they are, even though their performance may be judged critically in terms of what they are capable of doing. Leaders who identify and who fully accept those who go with them on this basis are more likely to be trusted. (Greenleaf & Spears, 2014).

In conclusion, a special justification for increasing the earnings of people with disabilities is what Stańko (2009) writes about “the work is treated by the disabled as an important and ennobling activity in life” (p.2). The author continues that “for many disabled people are a condition for recognizing their fullness, ensuring respect and dignity in the environment and contributing to the development and welfare of society. Work - to enable self-realization - must be sensible and valuable. It must provide a perspective of development, satisfaction and the opportunity to improve” (p.2) In our opinion, the leader may help a lot by paying attention to the aspect of valuable work what means also work properly paid for the disabled employees. A good apprenticeship was initiated this February 2018 on the North American ground by the Alaska state authorities in the US, which ensured equal minimum wage for the disabled people and without disabilities, thus employees with disabilities would not earn less than \$ 9.84 per hour. The Alaska's workforce, said: “They deserve minimum wage protections as much as any other Alaskan worker.” (Entralgo, 2018 p. 1).

## Insights

▪ *Leaders must cut down or reduce impression management*  
*“I believe some of our leaders are basically doing impression management to impress their higher-ups.” “Some are more concerned with their careers, impressing their bosses.”* (15 respondents’ inputs; mentioned 18 times). There is certainly a need to cut down and reduce impression management of some leaders.

All of us all try to impress others – to put our best foot forward, to attempt to be a witty conversationalist, and to secure people’s liking for us. Impression management is very critical in the development and maintenance of social relationships, but it is vitally central to effectiveness as a leader. However, success in social relationships and success as a leader needs a delicate or slight balance of impression management. Leaders need to be aware and they too need to monitor and control how they appear to others, but they also want to be straightforward and “authentic.” (Riggio, 2013).

Leaders, overall, need to be sincere and really show that they care and act for the disabled and the leaders of the disabled. It all boils down to their own value of integrity, and leaders need to be true to themselves (Low and Ang, 2013). Confucius once said, “Man’s existence lies in his integrity. A man without integrity can exist merely through his luck.”

(Confucius of Analects VI: 19, cited in Low and Ang, 2012, p. 101).

- *Leaders must act more in employing the disabled*

In Malaysia, all 8 interviewees (mentioned 10 times) spoke that “*leaders must act more in employing the disabled people*”.

In this connection, Starbucks Malaysia opened the chain’s first ever coffee channel in the world to employ hearing-impaired baristas. Conscious of the underrepresentation of the deaf community in Malaysia, Starbucks worked together with the Society of Interpreters, for the Deaf (SID) to give an avenue of employment for this community while simultaneously raising the public’s awareness of their contributions (Esvarly & Siaw, 2016). More of such initiatives, collaborations and actions need to be made.

- *Leaders make more funds available and have budget allocations for the development of the disabled*

In humanism (the Confucian way), a successful leader should be more humane or compassionate. And a benevolent person gives love, and is indeed an admirable person. He who is kind or munificent is supreme (Low, 2013; 2018).

“A leader who cares must focus much on human beings and values (such as benevolence) as they do on systems and processes” (Low and Ang, 2012, p. 105). More humane, compassionate or “human-orientated/ practicing *ren*” (Low and Ang, 2012, p. 105), leaders should make more funds offered or accessible and have budgets allocations for these soft side (the training, development and growth as well as the sustainability of the disabled) rather than just the hard aspects such as infrastructure developments; and/ or heavy reliance on Non-Government Organisation or NGOs and charitable as well as self-help organizations.

Note that the training, development and sustainable growth of the disabled can critically help the community to attain a peaceful and harmonious platform or environment for business sustainability and societal well-being.

- *Leaders must have more of a “mind growth” change*

Leaders must care for their people (Low and Ang, 2012) and have awareness programs and/ or training to change the people’s mindsets and attitudes towards the disabled. Compassion (“*ren ai*”) makes a person (leader). For Confucius, Virtue is something to be desired highly. But why virtue is underscored? When virtue is applied, one enjoys a clear conscience. And a clear conscience is like a soft pillow, and one sleeps well. “A gentleman finds peace of mind in virtue and he covets it” (Confucius cited in Chew 2000, p. 8, also cited in Low, 2013; 2018).

“There is a Chinese saying that goes, “learning is like rowing upstream; not to advance is to drop back.”... In essence, what is stressed here is the fact that a successful leader must not only continue to learn, but needs to widen his or her visions and horizons.” (Low and Ang, 2012, p.100).

While raising the awareness of the people, leaders too need to widen their visions and horizons as well as to have a “mind growth” (Low, 2010), and leaders of developing or growing economies should be more concerned for the tasks as well as for the people (They should be both high-task and high-people orientated, especially for the disabled.) National development and progress should also incorporate more budget provisions, taking care, assisting, having (better) facilities and catering to the needs of the disabled and the leaders of the disabled.

- *Leaders call for and adopt a more proactive stance*

It will certainly be remarkable for leaders to explore the human side of disabilities. For many leaders, coming into contact with a disabled individual can feel awkward. The best way to overcome that discomfort is to learn about different types of disabilities and recognize that disability is just a different type of ability. Organizations like Diversability and Positive Exposure offer great information and organize some exceptional events (Gaudiano and Hunt, 2016).

Leaders should also open their eyes and heart for a mind-changing experience understanding and interacting with the disabled; and these can be the more proactive attitude endeavoured, strived and espoused by leaders.

In our modern society, the disabled and elderly face greater challenges when competing in the job marketplace; they need to be actively cared for. And leaders thus need to be (more) proactive or walk their talk in helping the disabled and leaders of the disabled.

In the Singapore example, Dignity Kitchen, since its inception in October 2010, is the Republic's first hawker training school for disabled and disadvantaged people (Dignity Kitchen, 2016); and this is a good step towards helping the disabled to secure in-depth knowledge on the hawker food trade, enhance professionalism and boost their employability. [Dignity Kitchen is the first food court in the WORLD to attain the ISO 22000 certification for food safety management system; Dignity Kitchen, 2016].

- *Leaders ask for and adopt the active teaching and/ or training of leaderships to children and youth with disabilities*

Additionally, the researchers would also suggest the active teaching or training of leaderships to children with disabilities. Leadership skills are essential for children and youth in today's society. It is not only about leadership, but also about teaching students the discretion or carefulness in deciding whether to engage in specific activities. Students with various disabilities need to learn decision-making skills so they can make the right choices.

Leaders can also be developed through trade training as a basic or first step, and here, Singapore's Dignity Kitchen is worth a special mention. It also runs a Hawker Training Program which is a six to eight weeks duration development program; and the curriculum includes theory, practice, assessment and placements. Pupils are trained in food stall operations, basic food hygiene, food preparations, kitchen safety and simple cooking (Dignity Kitchen, 2016). And yet another Dignity Kitchen's enterprise was to start the Mama Stall in May 2012 so as to generate activity-avenue for intellectually challenged youth besides running a food stall. It also trains them to sell books, confectionery, newspapers with special method (such as activity cards). Two stalls have been opened, one in Changi and another in Khoo Teck Puat Hospital Lobby, Yishun (Dignity Kitchen, 2016).

Although most (25: 16 Singaporeans; 4 Malaysians – 2 males and 2 females and 5 Kazakhstanis: 2 males and 3 females) interviewees spoke of “*the able people to plan and make decisions to facilitate the mobility of disabled*” (interviewees' inputs; mentioned 27 times), the people with disabilities are and can be leaders of tomorrow. Here, it is worthy to note that many disabled have become leaders; and some examples include Franklin D. Roosevelt (1882-1945), Winston Churchill (1864-1965) and Woodrow Wilson (1856-1924) (Infomory.com, 2012). When Franklin D. Roosevelt was 39 years old, was stricken with polio and was paralyzed from the waist down, thus needing the use of a cane,



crutches, or a wheelchair. Next, Winston Churchill, throughout his life, suffered from a speech impediment, like what his father also had. He was prone to stuttering, speaking with a lisp, making occasional clattering noises in his throat, and described himself as tongue-tied. And Woodrow Wilson was alleged to have suffered from dyslexia, a type of reading disorder. A very poor student, Woodrow was considered quite slow by his teachers, and did not learn to read till he was 12 years old. His father, strongminded to help his son, tutored him rigorously. Woodrow taught himself shorthand and through utter determination and self-discipline was able to get into college, obtained a degree in law, and became a lawyer, a revered college professor, a governor, and eventually, the 28th President of the United States. Interestingly, these people have been Captains of their lives and turned their lives around for the better.

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# **Obstinate Actions-Oriented Behaviour towards Applying Theoractive Learning: An Ontology of Educational Learning and Leadership Theories in Practice**

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## Abstract

*Obstinate actions-oriented behaviour is the study of learning and practicing behaviour theoractively, which is acquired from the content based, process based learning and spawning critical reflexivity to the learnt theoretical phenomena into practical actions. Obstinate actions-oriented behaviour is a multi-faceted behaviour that is generally applied to gain success and to become effective through the ontology of theoractive learning. Obstinate actions-orientation, in this study, is viewed in a positive light; and denotes a self-willed, natural and nurturing action towards the tenacious pursuit of a self-desired goal. This action is achieved by applying learning theories to practice, thus displaying theoractiveness, with self-willed obstinacy towards the individual goal or the organizational goal. Theoractive learning is grounded in content and process learning in order to generate critical reflexivity with which to judge and evaluate the learnt behaviour of an individual. This paper is conceptually designed and accumulates various relevant theoretical literature within organizations and leadership with a purpose to support the conceptual commentary. Terminologies used in this paper are precisely described and illustrated. The meanings were elucidated and supported by integrating the leadership theories. Theoretical consciousness can play a pivotal role in shaping an individual's competences, and in generating a theoractiveness; however, theories are often limited to content learning. Nonetheless, process-based orientation subconsciously implements these theories at a higher educational level. Obstinate actions orientation consists of both an art-obstinacy and a science-obstinacy. Teaching by the "what method" is a science-obstinate action, whereas, teaching by the "why and how" method is an art-obstinate action. Actions-oriented behaviour enables followership movement towards the leader's desired conducive climate, creating a dominant leadership style within the context, and maintaining a leadership style fix.*

**Keywords:** Content learning, process learning, critical reflexivity, leadership theories, action-oriented behaviour, theory and practice.

## Introduction

*Theoractive learning* has multidimensional facets that integrate theory into practice. According to Rajbhandari et al. (2011), *theoractive learning* is both content and process-based learning that instigates critical reflexivity (see Figure 1). Content learning is necessary in order to view how theory and practice intertwines, generating process learning. Moreover, learning occurs when one understands the attribution errors of perceived behaviour (Berry, 2015). Attribution errors (Harvey, Town, and Yarkin, 1981) towards materials or objects can be viewed through multi-idiocracy lenses and are the main contributors for critical reflexivity.

Generally, in higher education, theories are primarily a basic subject from which learning takes place. However, theories are usually taught without much deviation or



respect to the development of the theory, including the interpretations of such theories, which is an example of obstinate actions. The obstinacy in this study is represented in a positive light, which illustrates the skills and abilities needed for generating competences, by applying theories into practice, in order for success to be achieved. Suzawa (2013) states that it is necessary for an individual to know how to successfully cope in a real world where knowledge is rapidly changing. Obstinacy action in this study denotes the self-willed nature of an individual towards a group or individual that is in pursuance of a desired goal. This self-willed obstinacy centralises around the individual goal or the organizational goal. Nevertheless, in a positive light, obstinacy is the driving force that reduces and even eliminates the restraining forces within the environmental parameters for remaining successful. Moreover, in all these cases, theoretical consciousness can play a pivotal role in shaping individual competences, generating a *theoractiveness*. However, theories are often limited to *content* learning, while *process*-based orientation implements these theories, at a higher educational level, in a *subconscious* or *unconscious* manner. Usually process-based orientation and content learning are difficult to amalgamate, nevertheless, these can be used to enhance each process.

Without the theory-based content, higher education is considered a weak syllabus, as the content, at a higher education level, is so complex that one has to memorize it by heart; for example, written exams, where the illustrations of theories need to be learnt by rote (Rajbhandari et. al., 2011). Most social and management theories that are still present in the higher education syllabus have been constructed from rigorous experimentation and exploration; this contributes towards the success and upliftment of each social welfare and management organization, which in reality would not have been possible. Suzawa (2013) suggests that teaching devices and techniques must adhere to the relevant and current theories to make it receptive with the teaching and learning processes, which generates critical and creative thinking process through professional development and activities. Therefore, organizations are successful due to *action-oriented leadership behaviour* (Rajbhandari, 2017a) based on *obstinate actions-oriented behaviour* and by being *street-smart* (Rajbhandari, 2013). This *action-oriented* behaviour can be defined as either the theory *action-oriented* or non-theory *action-oriented*; both types achieve success.

*Theoractively*, *action-oriented* leadership behaviour combines *relations-oriented behaviour* and *task-oriented behaviour* (Rajbhandari et al., 2016; Northouse, 2010; Hersey and Blanchard, 1988) in order to produce a leadership conducive environment. On the other hand, *non-theoractiveness action-oriented* behaviour generates a climate favourable to the leader's style adaptation, due to the leader's obstinate actions. Nevertheless, in both of these types of *obstinate actions-oriented behaviour* the leader is able to generate a specific *style-fix* to match the teaching or learning situation, and the followership domain (Rajbhandari 2017a), by stipulating leadership behavioural articulation towards maintaining *leadership elasticity* (Rajbhandari, 2017b).

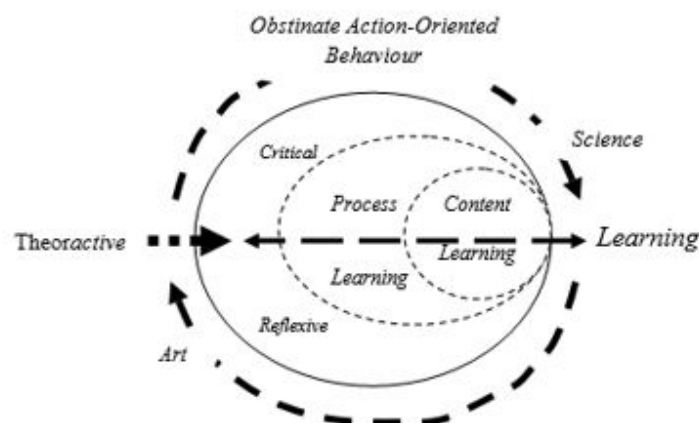
Theories in absolute science are tested by hypothetico-deductive methods, based on observations and data that require data to be organized into theories. However, in social science, where absolutism is almost non-existence, common laboratory apparatus cannot be used to study human society or relationships. In such cases, theories become hypothetical, where either synergy ( $2+2=5$ ) or dyssynergia ( $2+2=3$ ) occurs. Suzawa (2013) further states that existing theories of learning are academic centred and not life-time centred; which does not offer real-life solutions to real-life problems (Sternberg, 2000; Wagner, 2000; Wagner 1987). Therefore, *theoractiveness* offers a deeper



understanding of theories being implemented into practice, which allows an individual to practice theories in real-life activities and in real-life situational environments. The understanding of how theories are being used in social sciences is *theoractive* learning. This is initiated by amalgamating content learning and process learning, which will generate a critical reflexivity through motor-reproduction and retention of learnt behaviour.

Therefore, the purpose and aim of this study is to highlight the learning behaviour and to elucidate the actions orientations behaviour either through an Art Obstinacy or the Science Obstinacy actions behaviour. More specifically, this paper further discusses on the obstinacy actions orientation through the Art and Science obstinate learning and practicing behaviour towards the outcome of becoming effectiveness and successful.

Figure 1. *Obstinate-Actions-Oriented Behaviour towards Theoractive learning of Art and Science of content learning, process learning and critical reflexivity*



## An ontology of obstinacy towards action-oriented behaviour

*Theoractiveness* stems from content learning at a higher educational level in order to initiate a process learning paradigm. *Content learning* (Stroller. 2002; Israel et al., 2014) is strongly attached to the content syllabus of the curricula. Moreover, in an educational setting, content learning is based on teaching by the “*what method*”, which is a *science-obstinate* action, whereas, teaching by the “*why and how*” method is an *art-obstinate* action. Although teaching by the “*what method*”, does not incorporate how the theory can be processed in a real-life situation, it is an *art* for the learner to realise their learnt behaviour through process learning; this can be supported by the *theoractive* learning paradigm, by generating the art towards obstinacy action through attention, motor-reproduction and retention of the learning process and motivation (Harinie et al., 2017; Hartjen, 1974, Bandura and Jeffrey, 1973; Bandura and Walters, 1963).

In most cases, content learning fades when the process learning phases are obtained. Therefore, retention, motor-reproduction and motivating are essential to the learning process. *Theoractive* learning needs to be generated within the framework of content learning that is involved with processing of the learnt behaviour. However, adept learners demonstrate their learnt behaviour by applying the theory without understanding the theory or realising how they need to apply the theory and in which situations; this is instigated by their self-willed and self-taught behaviour.

Although subconsciously or unconsciously, some theories are being applied during the processing phase, it is equally necessary to understand how theories can be applied. The *art of obstinacy action-oriented behaviour* generates an understanding of the situation and the variables that the learner is interacting with. This creates the process of obstinacy to fit within the environment parameters and situations. Mainly in educational and social atmospheres, personality theory is highlighted and can be observed. However, it is an attribution error to assume that these variables can cause *theoractive* misrepresentation.

*Obstinate action-oriented behaviour* occurs during process learning, when learners are unsure about representing the learnt phenomena; which was activated by the teaching of *what* method during the content learning phase and leads towards critical reflexivity in the learning realm. However, *obstinate action-oriented* behaviour offers and enables the learners an opportunity to demonstrate the *how and why*, which generates the *art* of *obstinate action-oriented* behaviour learning. In the area of social science, especially with educational activities, where both teaching and learning occurs, the process and critical reflexive phases need to be strengthened to generate the *art* of *obstinate action-oriented behaviour* towards becoming successful and effective.

### **Effectiveness vs Successful Obstinate Action-oriented Behaviour**

In many cases, successful and effectiveness are taken as synonyms to evaluate the characteristics of an individual. However, in social science, where absolutism is almost non-existence, successful and effectiveness can represent an extreme side. Successful individuals are *theoractively* smart; this could be due to the obstinate action of applying their skills and ability to win over others and the situational parameters. Obstinate action, in this study, is represented in a positive light and is also considered as an individual competence. Obstinate action is more of an *art* than a *science*; however, in general, obstinate action is both an *art* and *science*. In this study, obstinate action is represented in two facets: First, the *science-obstinate action*, which entails the absence of thought about a theoretically dysfunctional behaviour, in a given context or organizational setting, which may misrepresent an individual's personality. Second the *art-obstinate action*, which entails the action-oriented behaviour either to win or to influence the situation, for example, a clown in a circus, an actor in a movie or the leader in an organization.

In any given circumstance, remaining effective and becoming successful depends upon the individual's obstinacy and how much *art-obstinate action* one can demonstrate. However, effective obstinate action can be enriched through *theoractiveness* by understanding the situation and the theories applied. Management or social theories do not have any style(s); rather it is the personality of an individual, whether *Type A* or *Type B* (Alfulaij and Alnasir, 2014; Friedman and Rosenman, 1974) that determines the style of obstinate action learning. However, in obstinacy learning, being *theoractively* conscious further generates applying the same theory in different ways, by understanding the content learning and while it is being processed, further understanding its attributions.

*Science-obstinacy* is not generally applied. However, *art-obstinate* action intertwines one's skills and abilities resulting in success and skills in being *street-smart*. This enables an individual to competently cope in the real world, which is a rapidly changing environment. On the other hand, *art-obstinate action* can be difficult and result in catastrophic actions or behaviour of ill-repute. It is sometimes difficult to separate and

differentiate between the *science-obstinate actions* and the *art-obstinate actions*; while we may assume to be applying an *art-obstinate action*, it may however, manifest into a *science-obstinate action*. This can only be controlled by applying *theoractiveness* into the process learning, which illustrates an intellectual *art* of skills in maintaining effectiveness. This enables an individual to *personality style-fix* at the contextual settings, which is secure from *personality style-drift*, preventing personality misrepresentations.

### **Ontology of Art-Obstinate Action and Science-Obstinate Action**

In higher education, *theoractive* learning is limited to content learning, while process learning is demonstrated in real situations. However, most learnt phenomena are applied unknowingly, this is a subconscious mind setting, which is critically reflexive of *theoractive* learning.

Both the *art-obstinate action* and the *science-obstinate action* are regularly experienced in higher education; and these types of obstinate action learning could be both functional and/or dysfunctional. The functionalism of obstinate action is guided by the *theoractive* learning behaviour, where most individuals are equally conscious about which theory(s) are being applied and how this represents the synergies. However, the dysfunctionism of obstinacy behaviour is guided by one's perception and is not based on the facets of context and content learning. The process throughput time represents the dyssynergias and perhaps results in a personality misrepresentation.

In both the synergy and dyssynergia, obstinate action learning contributes to the evaluation of the individual's learning. The *art-obstinate action* generates the synergy, while the *science-obstinate action* may generate dyssynergia. In this study, both the *art-obstinate action* and *science-obstinate action* are considered as a positive reflection of the individual's *theoractiveness*.

More specifically, questions related to teaching by the "*what method*" are based on *science-obstinate action*, whereas, teaching by the "*why and how*" is based on *art-obstinate action*. Implications of theory cannot be an absolute science in sociology, education, and management etc. In such cases, *art-obstinate action* can influence implication of theories in the fields of education, management and sociology. Education at higher level studies are based on educational theories and multiple theories cover the syllabus and moreover, in management and organizational behaviour. The *art* of applying these theories into practice is within understanding and implementing *art-obstinate actions*. Teaching by "*what method*" about the theory or the content is a weak form of teaching, as it does not illustrate the implication of how these theories are being applied in a real-life problems and relevant environments; this relates to obstinate action learning of *science-obstinate actions*. Nevertheless, an educator at higher level studies, who focus on teaching by the "*why and how method*" can generate the learners' mind-set to subconsciously learn by the *theoractive* process; this relates to obstinate action learning of *art-obstinate actions*. As stated earlier, the term obstinacy is not taken as negatively in this study, however, obstinate action enables the learners to put the learnt theories into practice by understanding the *art* of applying the skills in order to succeed, as well as be effective.

### **Discussion and Implication of Obstinate Action Learning and Leading**

*Art-obstinacy* enables us to achieve a desired objective by agreeing on common ground, through force exertion of persuading others over the advantage of winning the desired objective; consequently, the negative outcome of the disagreement may be

encountered. However, *art-obstinacy* enables the continuous and positive process of influencing. In the field of learning and leadership, the autocratic leadership style is defined as the exertion of forces over others, despite that the consequences of negativity are certain; however, people in the organization follow them. The leadership democratic and laissez-faire style are also based on *art-obstinate actions* of influencing others, however, rather through generating relational approaches. Nonetheless, all these leadership styles have a limit of fulfilling the desired objective.

Desired objectives can have two facets: organizational desire or the individual desire. Rajbhandari (2011) suggests *FOSS leadership*, which illustrates the leadership of *art-obstinacy* in two areas: *Focusing* on the objective, being *Optimistic* in achieving these objectives, *Striving* to accomplish and *Smiling* to tackle the immediate problems; which can also be processed through the obstinate learning by *art-obstinate actions*. This coincides with either becoming successful or being effective.

The *FOSS leadership style* and approach form two areas: negative *FOSS* and positive *FOSS*. In both of these streams, *art-obstinacy* is applicable. Negative *FOSS* aims to achieve personal success, while positive *FOSS* is concerned for organizational growth and development by remaining effective. However, in both of these cases of *FOSS*, leadership approaches have to deal with the people, policies, further planning etc. of the organization. *Art-obstinate action* enables a leader to obtain the leadership *personality style-fix* (Rajbhandari, 2017b) by *theoractively* reflecting on the dominant leadership style and creating positive situations and contextual variables.

Although dominant leadership style dictates the situation and characteristics of leadership, in this study, *art-obstinate action* creates the dominant leadership style by applying the *personality style-fix* through creating a suitable context to fit the specific leadership styles. The *art-obstinate action* stipulates that the *leadership fix* (Rajbhandari 2017b) generates a conducive climate for the leaders. Moreover, as followership domain is concern, fixing of followership towards the leader's conducive climate is also stipulated by the *art-obstinate action*; thus, generating a dominant leadership style by taking over control of the situation and followership domain.

Although *art-obstinate action* could be seen as a negative term, obstinate action learning is an essential component that enables individuals to hold onto their covered learning ground. In connection to obstinate action learning, are leadership theories, for example, great man leadership theory, leader-member exchange (LMX) theory, situational leadership theory, traits theory of leadership, behavioural leadership theory, Path-Goal theory etc.; these theories of leadership are influenced by *art-obstinate action*.

The great man theory by Carlyle (1840) claims "the history of the world is but the biography of great men". This theory signifies the essence of *art-obstinate action* of *maintenance of both leadership and followership* (Rajbhandari 2016, Rajbhandari and Rajbhandari 2015) by gaining leadership over others through the exertion of their tenacity to fight against the odds to result in a followership. In history, leaders won their leadership rights and victory by defeating the enemy on the battleground. The *art* of winning lies beneath the persuasive behaviour of leaders, who persuade the soldiers to fight, while the consequences could always be death. Leaders continue to excel in *art-obstinate action* in order to remain successful.

In the LMX theory (Dansereau, Graen, and Haga, 1975), a leader creates a conducive environment by forming in-groups and out-groups. The out-groups are slowly converted into in-groups, which is only possible through applying *art-obstinate action*.

The situational leadership theory (Hersey and Blanchard, 1988) is also influenced by *art-obstinate action*, where a leader determines the situations by how much the followers have matured enough to move onto the next level of the situational paradigm, even though the leader might not be ready. In this theory, a leader determines the followership and evaluates their maturity; whereas, leadership's readiness for flexibility and mobility is not evaluated (Rajbhandari, 2014). Consequently, in this theory, *art-obstinate action* maintains the dominant leadership style by stimulating the followership domain and the situational paradigm.

In the Path-Goal theory of leadership (House, revised in 1996), leaders are concerned with arriving at the destined goal. This illustrates the effect of obstinate-action behaviour towards instigating the followership domain by inspiring the energy needed to fulfil the organizational goal. This achievement through the Path-Goal theory of leadership can either produce successful leadership or effective leadership. In both of these cases, the followership domain is encouraged by seeing their efforts being applied by the leader's *art-obstinate action* in order to become effective and to make the organization successful. Both the leader and the organizations win, whereas the followership domain is not recognised as a winner.

Leadership behavioural theory also results in leaders, who excel through *art-obstinate action*. This theory focuses on two facets of a leader's behaviour: *relations-oriented behaviour and task-oriented behaviour* (Rajbhandari et al., 2016; Northhouse, 2010). From the study of Ohio State University in 1945 and University of Michigan in 1947 (Bass, 2008), leadership behavioural theory was developed to study leader's behaviour by using the Leaders Behaviour Descriptive Questionnaire (LBDQ). From both studies similar results were indicated; the Ohio State University (Stogdill, 1959), found that the leader's behaviour was people-oriented (consideration) and task-oriented (initiating structure). The study at the University of Michigan by Likert and researchers in 1947, identified leader's behaviour as employee oriented and production oriented (Bass, 1990; Likert, 1967). In both these behaviours, leaders demonstrate their skills of "*leadership style-fix*" by *art-obstinacy*, generating *action-oriented* behaviour through applying *action-oriented* behaviour towards balancing both the relations-oriented and task-oriented behaviour, in order to win the followership domain by generating "*leadership equilibrium*" (Rajbhandari, 2017b; 2013).

The leadership equilibrium is a behavioural pattern of the leader to match their follower's behavioural domain, through the use of appropriate *personality style-fix*, further controlling the followership's *personality style drift*. Although leaders may not be able to demonstrate the multiple behavioural patterns within the contextual variables, the *art-obstinate action* enables the leader to maintain *personality style-fix* by creating matching environments that are conducive to the leaders and followers always remain in the shadows. *Art-obstinacy* motivates *action-oriented behaviour*, which requires various variables to rectify situations and the followership domain. Moreover, *action-oriented behaviour* enables followership movement towards a leadership conducive climate, creating a profile of dominant leadership style and maintaining *leadership style-fix*.



However, in all of these cases, success comes to the one who initiates the *art-obstinate action* process learning.

## Conclusion

*Obstinate action-oriented learning* is positive; even though many assume it to be a negative and humiliating term. In this study, the reflection of obstinate action learnings is taken as a positive term as it results in successful actions. Although being successful and effectiveness are similar traits, the winner is always acclaimed as successful, which results from obstinate action learning and by applying *art-obstinacy*. Moreover, obstinate action in this study is reflected in two facets: an art-obstinate action and the *science-obstinate action*. Although obstinate action learning is both an *art* and *science*, obstinate action is more inclined towards an art-obstinate action in applied science.

In summary, teaching by the “what method” are based on science-obstinate action, whereas, teaching by the “why and how” is based on art-obstinate action. In higher education, both the art-obstinate action and the science-obstinate action are experienced. The obstinate action learning could be both functional and/or dysfunctional. The functionalism of obstinate action is guided by the theoractive learning behaviour, while the dysfunctionism of obstinacy behaviour is guided by one’s perception and is not based on the facets of context and content learning. Moreover, Successful and effectiveness evaluates the characteristics of an individual. Successful individuals are theoractively smart; this could be due to the obstinate action of applying their skills and ability to win over others and the situational parameters. However, by manifesting theoractiveness learning from content based to process based and generating critical reflexivity through knowledgeable art of Skills, Ability, Competences and Intelligence (SACI) can maintain the effectiveness at various levels.

*Theoractiveness* actions-oriented behaviour instigates critical reflexivity by combining the theories of content learning and process learning. Although, *theoractiveness* generates synergies, it is an *art-obstinate* action for an individual to intertwine the content learning into the process learning and does not guarantee the correct application of theories into practice within the immediate situational and contextual domain. However, in social environments, the *art-obstinacy action-oriented behaviour* initiates the personality style-fix, which can make an impact towards successfulness and effectiveness. Nevertheless, as education is ambiguous, so is the behaviour.

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## Using Mobile Phones by Young People: The Trends and Risk of Addiction<sup>1</sup>

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## Abstract

*The subject of the article is the issue of the use of mobile phones by young people and possible dangers resulting from the dysfunctional use of mobile phones. The analysis of this issue was started from the theoretical side of the phonoholism phenomenon presentation. The definitions related to the use of a mobile phone are presented and the risks and consequences of excessive use of a mobile phone are discussed. Typical features of a person who is psychologically addicted were also described. In the second part, the results of the research carried out among primary and high junior school students were presented. The main aim of the project was to determine the risk of phonoholism among adolescents in two school environments. Anonymous questionnaires were conducted in 2016 among 221 students (54.3% girls and 45.7% boys) aged 10-13 years old. The research results indicated that having a mobile phone is something common and normal. Gender and age of respondents differentiate the way adolescents use mobile phone, but especially the differences were visible when the group of boys and girls were compared. Recommendations for school practices and implications for future research were formulated at the end of the article.*

**Key words:** phonoholism, addiction, prevention, education, mobile phone dependence syndrome

## Introduction

Recently, due to the development of modern electronic media, especially in the field of digital technologies, the new behavioral problems have arisen. Since the appearance of the mobile phone, the anomalous use of this device has called into question whether the abuse of its use could lead to addiction. The new phones are used not only to make calls or sending short text messages, but they are already portable computers, music players, radio receivers, devices for car navigation, dictaphones, are also used for logging in to the internet, they are also calendars, notebooks and cameras (Andrzejewska, 2014, p. 22). The average Pole has 1.47 mobile phones, and 9.2 million actively uses social networking sites on a smartphone (We Are Social – Digital, Social & Mobile Worldwide in 2015). Students use it to communicate with other people - sending text messages (76%) and calling (70%), and 68% of young people believe that the phone is a source of entertainment and a way to socialize. Taking pictures and videos using the mobile phone is typical for 92% of teenagers, listening to music using the phone every day or almost every day affects 65% of students. Two-thirds of teenagers treat the phone as an indispensable tool for obtaining data. More and more contemporary teenagers can not imagine even one day without a mobile phone. Security and convenience are the most frequently presented arguments to justify frequent use. The belief that a phone is important in the life of a young person is demonstrated by the fact that one of the most severe penalties used by parents in the opinion of adolescents is to take a mobile phone (Raport TNS OBOP, 2012).

Taking into account the forms of mobile phones use presented above and their universality, it could be stated that it can be easily to lose control over rational use from these devices. De-Sola Gutierrez, Rodriguez de Fonseca and Rubio (2016) emphasized that this fact has become more evident in communications media, inspiring new pathologies, such as “Nomophobia” (No-Mobile-Phobia), “FOMO” (Fear Of Missing Out) which means the fear of being without a cell phone, disconnected or off the Internet, “Textaphrenia” and “Ringxiety” which can be understood as the false sensation of having received a text message or call that leads to constantly checking the device,

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and “Textiety” which is the anxiety of receiving and responding immediately to text messages (see also: Taneja, 2014; Guerreschi, 2006).

For this reason, researchers distinguished a new group of addictions, called functional addictions, or behavioral ones. The basic feature of these behaviors is: “no way to resist impulses or lust, drive or the temptation to perform acts that are harmful to addicts themselves or those around them” (Klimkiewicz & Wojnar, 2013, p. 6). Among behavioral disorders, addictions from technology are distinguished, resulting from the interaction of person with the machine (e.g. with a computer or a telephone), in the absence of simultaneous physical intoxication which is typical for substance addiction (see also: De-Sola Gutierrez, Rodriguez de Fonseca & Rubio, 2016). Therefore, the addiction to a mobile phone can be defined as an abnormal, dysfunctional way of using it and is referred to as phonoholism (or mobile phone dependence syndrome).

### *The phenomenon of phonoholism – the nature, manifestations and consequences*

The phenomenon of phonoholism is relatively new, because it appeared about 15 years ago. China was the first country in which researchers began to recognize them and write about it. Also in the medical literature, the term “mobile phone dependence syndrome” was used for the first time (Guerreschi, 2006, p. 207). This phenomenon is particularly important in relation to young people whose character, personality or ability to function properly in various social groups - professional, friendly and family - are just beginning to shape.

Psychologists involved in the diagnosis and treatment of this addiction claim that people who are addicted attach great importance to having a mobile phone and do not leave it for a moment; mobile phone is for them the most important tool for everyday contacts with others; they feel strong discomfort which is manifested by bad mood, anxiety, sometimes even panic attacks when they do not have a charged battery; using the mobile phone is in their case dictated not by persistence, but by emotional and social factors; the telephone is for them an intermediary in dealing with others; the telephone is necessary for them to exercise constant control over the object of feelings; they feel compelled to stay in touch with someone; they provide convenience and security as justification for their behavior; they have a strong need to belong to the group and gain its recognition; they often suffer from a social phobia or are afraid of loneliness and they usually mask the fears associated with it or deny their existence (Guerreschi, 2006, p. 198-199).

Addiction to a mobile phone according to Potembska and Pawłowska (2009) is an incorrect, dysfunctional way of using a mobile phone, which is characterized by the occurrence in the last 12 months of at least five of the following symptoms:

1. A strong desire to use a mobile phone, conduct conversations or send text messages (SMS), expressed in constant thinking about the mentioned activities.
2. The need to increase the frequency and time of phone calls and to increase the amount and frequency of sending SMSs.
3. Repeated, ineffective attempts to stop or limit the number of calls and SMSs sent.
4. The occurrence of withdrawal symptoms such as anxiety, low mood, depression during attempts to stop or reduce the number and time of calls made by the mobile phone and the number of SMSs sent.
5. Conducting longer conversations and sending more SMSs than previously planned.
6. To lie to family and friends in order to hide costs and time spent on phone calls and sending text messages.
7. Using a mobile phone as an escape from real problems or to improve the bad mood (loneliness, anxiety, depression, guilt).



#### 8. Financial, professional, family and social problems caused by using a mobile phone.

In the case of children and adolescents, there are also difficulties in establishing new friendships and social relationships; lack of control of one's emotions and behavior; lack of concentration on the classes (problem with focusing attention, in addition to controlling the telephone); committing language mistakes; degradation of current interests, which in turn leads to social isolation of an addicted person who can not communicate with others without a telephone (Kozak, 2013). Mental addiction is a strong and extremely difficult to control the need, and sometimes even mental compulsion, to continue to take a certain measure or to repeat a particular activity. The mechanism of this addiction leads to the need to achieve an emotional effect, to relieve tension caused by psychological hunger, for pleasure, to alleviate unpleasant well-being (Olszewska, 2013). Psychological dependence, e.g. from a mobile phone, can be identified when an addicted person is not able to stop compulsive behaviors by himself, which leads to a continuous performance of a given activity from which the individual is dependent (Jędrzejko & Taper, 2010, p. 20-21). Furthermore, there is evidence that the smartphone, with its breadth of applications and uses, tends to induce greater abuse than regular cell phones (Taneja, 2014).

The criteria discussed above are similar to those that characterize substance addiction and that occur in DSM-IV-TR (Choliz, 2010; De-Sola Gutierrez, Rodriguez de Fonseca and Rubio, 2016). It is worth mentioning that considering time, a non-addicted user can spend the identical amount of time on the cell phone as an addicted user, but the non-addicted user's time is constant, more focused on concrete tasks and less disperse (Tosel et al., 2015).

Kozak (2013) distinguishes three stages of mobile phone addiction, each of them lasting for some time. For the first phase, the occurrence of euphoria, curiosity about the new device or the performance of a given activity is characteristic. It makes happy and causes to break away from everyday problems. The second phase means compulsive use of a device, compulsive performance of an activity while devoting more and more time to it, bordering other interests. This condition shows addiction. In the third phase - the last one - there is neglect of duties and social relationships. The person experiences strong discomfort caused by the lack of access to the device. The appearance of negative changes in behavior confirms that the person lives for a given addictive mean and nothing else matters.

Addiction to a mobile phone poses various threats to the mental and physical health of its owner and other people. For example, people who talk for a long time on a mobile phone, start to have a headache, have a hot ear, are tired or irritable. The most dangerous radiation may be transmitted by telephones for young children. The developing brain of the child is more susceptible (Pawłowicz, 2010). De-Sola Gutierrez, Rodriguez de Fonseca and Rubio (2016) recalled also other physical and psychological problems resulted from cell-phone abuse. These problems include rigidity and muscle pain, ocular afflictions resulting from Computer Vision Syndrome reflected in fatigue, dryness, blurry vision, irritation, or ocular redness, auditory and tactile illusions which means the sensation of having heard a ring or felt a vibration of a cell phone, and pain and weakness in the thumbs and wrists leading to an increased number of cases of de Quervain's tenosynovitis which relates to SMS texting (see also: Ali et al., 2014).

#### *Research on phonoholism phenomenon*

Considering the popularity of mobile phones especially in the group of children and adolescents, as well as possible negative consequences of improper use, these issues are subject to research and analysis. Most of all, researchers are interested in the prevalence of the problem and sociodemographic differences. Synthesis of data on prevalence in various countries has been done by De-Sola Gutierrez, Rodriguez de Fonseca and Rubio (2016). Researchers pointed out that various criteria are considered in the studies. Subject of analysis are addiction, dependence, problematic use,

excessive use, and risky behavior. It can lead to different conclusions. Therefore, in some countries the prevalence of the problem is set at 5%, while in others it reaches almost 65%. While undertaking research on phonoholism phenomenon, researcher should remember about many difficulties. They are an effect, for example, of a broad spectrum of positions taken by researchers, ranging from the absolute existence of addiction to a broader interpretation of these symptoms, as the result of an impulse control disorder or of problematic or psychopathological personality traits, which offer a greater range of behavioral possibilities beyond addiction itself. In this situation, it can be accepted the conclusion of Sansone and Sansone (2013) who have stated that the delineations between abuse, misuse, dependence, and addiction have yet to be clearly defined. Furthermore, Toda et al. (2006) note that mobile phone dependence can also be seen as a behavior congruent with a certain lifestyle.

Regarding research on this issue in Poland (not included in De-Sola Gutierrez, Rodriguez de Fonseca & Rubio, 2016) can be referred the first and - so far - the only one report on research into compulsive phone use and detailed characteristics of the phenomenon of phonoholism in Poland prepared by Dębski (2016). The main objective of this project was to increase the knowledge of Polish society in responsible use of new communication tools. This goal can be achieved by making a scientific diagnosis, dissemination of research results, as well as planning professional support for various target groups struggling with the uncontrolled use of digital devices, with emphasis on school youth. The research was carried out in 2015-2016 with the participation of school youth. The research was representative in nature and 22086 students completed the on-line questionnaire. Teachers also took part in the research (N = 3471). Results indicated that almost all surveyed students regularly use mobile devices (86.6%), the clear majority of used devices have direct internet access (92%). Half of the students indicate that they use the same frequency on a smartphone or cellphone on school days (from Monday to Friday), which is on weekends. At least once a day, over 85% of respondents use the phone (35% several dozen times a day). The vast majority of the students are convinced that someone can become addicted to the use of mobile devices (77%) and on the question of whether you yourself are a person addicted to a mobile phone every fifth student (20.8%) responds in the affirmative, almost every tenth answer "hard to say". Dębski (2016) stated that about 2% - 3% of students display clear symptoms of dependence on digital devices connected to the Internet. These symptoms concern emotions (e.g. lack of sense of security, lack of influence on events happening, anxiety and fear related to being outside the main flow of information - FOMO syndrome), but also behaviors (e.g., constantly touching the mobile phone and unlocking the screen, using the phone at any time of the day or night, compulsory waiting for others) and beliefs (e.g., hard to imagine a day without using a smartphone). The respondents were largely unaware of the negative psychosocial effects of habitual use of mobile devices and often believes that "sticking" to the mobile phone is the "sign of the times". These research results provide a way to formulate many recommendations and emphasize that dealing with the issue of phonoholism is particularly important and necessary. Indeed, this issue is increasingly being undertaken in Poland on a smaller scale and concerns various environments and age groups. A study conducted by Warzecha and Pawlak (2017) among secondary students or study conducted among Majchrzyk-Mikuła and Matusiak (2015) among pedagogy students are ones of the examples. Research carried out by the team of the EDUSA Foundation is also part of this trend of interest and will be the subject of this text. However, only a part of the results will be presented. Detailed analysis of other data collected as a part of the project "Fonoholizm – Ciemna Strona Mocy" (Mobile Phone Dependence Syndrome – The Dark Side of the Force)" implementation and relationships between them are the subject of publication in Polish prepared by Adamczyk and Adamczyk (2016).

## **Method**

### *Model*

The main aim of the project was to determine the risk of phonoholism among adolescents in two school environments. Due to the fact that this problem was not analysed in these schools,

researchers were interested in how young people use mobile phones. Apart from the exploration purpose, it was assumed that the project is to contribute to the development of a plan of prevention or intervention activities for schools.

Anonymous questionnaires were conducted in 2016 among students of the 4 – 6th grades of Primary School and among the 1st grade of Junior High School in the Bemowo District of Warsaw, the Capital City of Poland. The questionnaire consisted of 13 questions that concerned issues such as having a mobile phone and ways of using it, time spent on using mobile phone and beliefs about mobile phone abuse and its consequences.

#### *Participants*

Research was conducted among 221 students (54.3% girls and 45.7% boys) aged 10-13 years old (average age: 11.10). 4th grade students accounted for 28.1% of all respondents, 5th grade - 41.2% of all respondents, 6th grade - 24.0% of all respondents, junior high school students - 6.8% of all respondents. Detailed characteristics of the participants are presented in Table 1.

Table 1. *Gender and age characteristics of participants.*

		Age					
		10 years	11 years	12 years	13 years	Total	
Gender	Girls	Frequency	37	41	33	9	120
		% of gender	30,8%	34,2%	27,5%	7,5%	100,0%
		% of age	59,7%	45,1%	62,3%	60,0%	54,3%
		% of total	16,7%	18,6%	14,9%	4,1%	54,3%
	Boys	Frequency	25	50	20	6	101
		% of gender	24,8%	49,5%	19,8%	5,9%	100,0%
		% of age	40,3%	54,9%	37,7%	40,0%	45,7%
		% of total	11,3%	22,6%	9,0%	2,7%	45,7%
Total	Frequency	62	91	53	15	221	
	% of gender	28,1%	41,2%	24,0%	6,8%	100,0%	
	% of age	100,0%	100,0%	100,0%	100,0%	100,0%	
	% of total	28,1%	41,2%	24,0%	6,8%	100,0%	

Girls aged 10 constituted 30.8% of the total sample of girls, aged 11 - 34.2% of the total girls sample, at the age of 12 - 27.5% of the total girls sample, aged 13 - 7.5% of the total number of girls. Boys at the age of 10 constituted 24.8% of the total sample of boys, at the age of 11 - 49.5% of the total sample of boys, at the age of 12 - 19.8% of the total sample of boys, at the age of 13 - 5.9% of the total boys sample.

#### *Data analysis*

An analysis of the distribution of selected variables and their differentiation in terms of age and gender was made. In addition to the basic characteristics, the measures of dispersion were considered. On this basis, it became possible to interpret the values of the obtained measurements in the context of the distribution of the examined feature and its differentiation. Statistical significance of the differences was also verified. The formula for Cramer's V coefficient was used to measure the strength of the relationship between the variables.

## Results

The first question was: Do you have a mobile phone? All girls and 99% of boys gave an affirmative answer. One student wrote that he does not have a mobile phone, but he intends to buy it.

The second question was: Do you always have (or try to have) a phone with you? And has been presented on a scale (Yes / No). Results were presented in the table below.

Table 2. *Distribution of responses to question 2 due to age.*

			Do you always have (or try to have) a phone with you?		Total
			Yes	No	
Age	10 years	Frequency	18	44	62
		% of age	29,0%	71,0%	100,0%
		% of total	8,1%	19,9%	28,1%
	11 years	Frequency	54	37	91
		% of age	59,3%	40,7%	100,0%
		% of total	24,4%	16,7%	41,2%
	12 years	Frequency	36	17	53
		% of age	67,9%	32,1%	100,0%
		% of total	16,3%	7,7%	24,0%
	13 years	Frequency	12	3	15
		% of age	80,0%	20,0%	100,0%
		% of total	5,4%	1,4%	6,8%
Total		Frequency	120	101	221
		% of age	54,3%	45,7%	100,0%
		% of total	54,3%	45,7%	100,0%

$\bar{x} = 1,46$ ;  $s = 0,499$

The obtained results indicated the average variation in the responses ( $V_z = 34.18\%$ ), in such a way that 29% of the ten-year-olds students stated that they always have or try to have a mobile phone with them, at the age of eleven it is 59.3 %, sixth grade students constitute 67.9%, while at the age of thirteen almost every student declare s/he always has a mobile phone with her/him. The distribution of responses to all respondents indicated that every second student always has (or tries to have) a mobile phone with them.

The third question was: which of the functions of the mobile phone do you use most often? And was presented with the possibility of multiple choice of answers. The results allowed to state that the mobile phone is used primarily by students to check the time (66.1%), to send SMSs (63.3%), to make calls (61.5%), to use the Internet (57.5%). Every second student listens to music (52.5%) and takes pictures using a cell (47.5%). Every third girl most often uses the following phone functions: SMS (36.2%); pictures (32.6%), Internet (33.5%), conversation (34.4%), music (31.2%), time (34.4%). Every third boy most often uses the telephone functions such as: SMS (27.1%), conversation (27.1%), time (31.7%), every fourth uses the Internet (24.0%) and games (26.2%).

Table 3. *Distribution of responses to question 3 due to gender.*

Gender	Which of the functions of the mobile phone do you use most often?								
	SMS	Video	Pictures	Internet	Games	Notes	Calls	Music	Time
Girls	80 36,2%	23 10,4%	72 32,6%	74 33,5%	39 17,6%	17 7,7%	76 34,4%	69 31,2%	76 34,4%
Boys	60 27,1%	15 6,8%	33 14,9%	53 24,0%	58 26,2%	13 5,9%	60 27,1%	47 21,3%	70 31,7%
Total	140 63,3%	38 17,2%	105 47,5%	127 57,5%	97 43,8%	30 13,6%	136 61,5%	116 52,5%	146 66,1%

Analysis of the variation of answers in terms of the age of students, allowed to state that the age is the factor differentiating the way they use the mobile phone in such a way that the fifth-grade students using it more often than younger students from fourth grade. Almost twice as often eleven-year-olds (26.2%) than ten-year-olds (15.4%) use SMS, Internet, Games, Calls. Among twelve-year-olds compared to eleven-year-olds, there is a clear decline in the use of the most attractive functions of a mobile phone, which are text messages and conversations, while the remaining results remain at a similar level.

The fourth question concerned the time students spend daily using a mobile phone. The respondents had the opportunity to indicate the answer from four options: less than half an hour, 0.5 - 1 hour, 1-2 hours, more than 2 hours. The obtained results allowed us to conclude that gender largely differentiates the answer to this question ( $V_z = 44.76\%$ ). Girls (19.2%) spend twice as often as boys (10.9%) with a mobile phone more than two hours a day. The distribution of responses to all respondents indicated that everyday spending time with a mobile phone looks as follows: girls - 11.3% (less than half an hour); 21.7% (0.5-1 hour); 10.9% (1-2 hours); 10.4% (more than 2 hours); boys - 14.5% (less than half an hour); 17.2% (0.5-1 hour); 9.0% (1-2 hours); 5.0% (more than 2 hours). The results also showed that the age of students largely differentiates the answers to this question ( $V_z = 44.76\%$ ), in such a way that among students in a given age group, 3.2% of ten-year-olds, 8.8% eleven-year-olds, 34.0% of twelve-year-olds and 40.0% of thirteen-year-olds spend time with telephone over 2 hours a day. The distribution of responses to all respondents also indicated that every fourth student (25.8%) spends time with a mobile phone less than half an hour a day, 38.9% - from half an hour to an hour a day, 19.9% - an hour up to two hours, 15.4% - more than two hours. 35.2% of the surveyed students spend too much time with a mobile phone.

The next question concerned how long the student has a mobile phone. There was a differentiation of responses due to the gender and age of respondents. Girls (29.2%) have a mobile phone for more than three years twice as often as boys (15.8%). In the case of all students, every fourth respondent (23.1%) has a mobile phone for over three years. 9.7% of fourth grade students, 17.6% of 5th grade students, 32.1% of 6th grade students and almost every high junior school student (80.0%) have a mobile phone for more than three years.

In the next step, students were asked about how many text messages they send per day. Obtained results allowed to conclude that the gender differentiates the answer to this question ( $V_z = 49.91\%$ ) in such a way that girls send text messages more often than boys during the day. The results



also indicated that boys are characterized by a lower need to send and receive text messages, every second (46.5%) sends only two messages a day. For all students, 33.5% of them send less than two text messages daily, 29.9% to five daily, 17.6% to ten daily, 19.0% ten and more. It can be noted here that the report on the state of the telecommunications market presented by the Office of Electronic Communications shows that the number of messages sent in Polish mobile phone networks amounted to on average 4 SMSs per day per one inhabitant (Raport o stanie rynku telekomunikacyjnego w Polsce, 2015).

The seventh question in the questionnaire was: How many telephone calls do you make per day? The results of the research allowed to conclude that gender largely differentiates the answer to this question ( $V_z = 40,59\%$ ). Girls (15.0%) do more than five calls a day, twice as much as boys (8.9%). Almost every second student (39.2%) and every third student (29.7%) perform three to five telephone calls a day. With regard to all students, every fifth (22.2%) performs one call a day, every third (30, 8%) performs two calls a day, every third (34, 8%) performs three to five calls a day and every the eighth (12, 2%) performs more than five calls a day. In addition, differences were identified from the point of view of the age of students. Every third student of the fourth class (30.6%) conducts one conversation per day, every third (35.5%) two conversations a day, every third (30.6%) three to five a day and every thirty-first (3.2%) more than five calls a day. Every fifth-grade student (22.0%) makes one call a day, 28.6% two calls a day, 37.4% from three to five a day and every eighth (12.1%) more than five calls a day. Almost every seventh sixth-grade student (15.1%) makes one call a day, every third (30.2%) two calls a day, one third (32.1%) three to five a day and almost one fourth (22.6%) % more than five calls a day. Over every seventh student in the high junior school (13.2%) performs one conversation a day, every fourth (26.7%) two conversations a day, every second (46.7%) from three to five a day and over one in seven (13.3%) more than five calls a day.

The eighth question was: Do you turn off your mobile phone for the night? And it was presented in the Yes / No scale. It turned out that 36.7% of girls and 44.6% of boys care about turning off the cellphone for the night. Detailed results are presented in the Table 4.

Table 4. *Distribution of responses to question 8 due to gender.*

		Do you turn off your mobile phone for the night?			
		Yes	No	Total	
Gender	Girls	Frequency	44	76	120
		% of gender	36,7%	63,3%	100,0%
		% of question 8	49,4%	57,6%	54,3%
		% of total	19,9%	34,4%	54,3%
	Boys	Frequency	45	56	101
		% of gender	44,6%	55,4%	100,0%
		% of question 8	50,6%	42,4%	45,7%
		% of total	20,4%	25,3%	45,7%
Total	Frequency	89	132	221	
	% of gender	40,3%	59,7%	100,0%	
	% of question 8	100,0%	100,0%	100,0%	
	% of total	40,3%	59,7%	100,0%	

$\bar{x} = 1,60$ ;  $s = 0,492$

With regard to all respondents, almost every second (40.32%) turns off the mobile phone at night, and 59.7% does not. The obtained results were also differentiated due to the age of the respondents ( $V_z = 30.75\%$ ). Students from 4<sup>th</sup> grade (48.4% - Yes, 51.6% - No) and 5<sup>th</sup> grade (45.1% - Yes, 54.9% - No) answered similarly, which means that every other one turns off the mobile phone for night. On the other hand, among students of the 6th grade (26.4% - Yes, 73.6% - No) and junior high school students (26.7% - Yes, 73.3% - No), only one in four of them turns off the mobile phone at night.

The next question concerned students' opinions on whether using a mobile phone is dangerous to health. The students could answer in the affirmative or negative way. 69.2% of girls, 75.2% of boys believe that using a mobile phone is dangerous to health. For all students, 71.9% of them think that using a mobile phone have negative consequences to health, while every fourth of them is of a different opinion. Quite interesting was the variation of the results from the point of view of the age of respondents. 4<sup>th</sup> grade students (88.7% - Yes, 11.3% - No), 5th grades student (76.9% - Yes, 23.1% - No) and junior high school students (80.0% - Yes, 20.0% - No) respond similarly, that the use of a mobile phone is harmful to health. On the other hand, 58.5% of the 6th grades felt that using a mobile phone couldn't have negative consequences on health.

The tenth question was: Do you think someone can become addicted to a mobile phone? The students had three answer options: yes, no, I do not know. 86.7% of girls and 82.2% of boys thought that someone can become addicted to a mobile phone. Obtained results allowed to conclude that almost all surveyed students, regardless of their age, thought that one could become addicted to a mobile phone. Only every fifteen student (6.8%) stated that one can not become addicted to a mobile phone, and every twelfth (8.6%) had no opinion on this issue.

The students were also asked if they hear how the mobile phone rings, even if it is not true. It turned out that this type of experience is not frequent - 15.0% of girls and 13.9% of boys experienced the illusion of the phone's vibrations, even though in fact it did not occur. Most often this experience was signaled by older students. Among students of the sixth grade and junior high school students the percentage was around 25. This result may be associated with a higher frequency of use of the phone by older students, which has been previously demonstrated, as well as the fact that older students have longer experience of using the telephone than younger students.

The twelfth question was: Are you impatiently waiting for each SMS/conversation? The results allowed to conclude that the gender in the middle extent differentiates the answer to this question ( $V_z = 20.99\%$ ). Every fourth girl (24.2%) eagerly waits for each text message or conversation, while such impatience is shown by only every tenth boy (9.9%). Regarding all students, every sixth (17.6%) eagerly waits for each SMS or conversation. Considering the age of the respondents, it can be stated that eagerly waiting for every text message/conversation is 8.1% of ten-year-olds, 12.1% of eleven-year-olds, 34.0% of 12-year-olds and 33.3% of 13-year-olds.

The last question was: Could you live without a cell phone? The results showed (see Table 5) that gender in the medium level differentiates the answer to this question ( $V_z = 35.0\%$ ). 35.8% of girls and 17.8% of boys think that they could not live without a mobile phone.

Table 5. *Distribution of responses to question 13 due to gender.*

		Could you live without a cell phone?		Total
		Yes	No	
Girls	Frequency	77	43	120
	% of gender	64,2%	35,8%	100,0%

Gender	Boys	% of question 13	48,1%	70,5%	54,3%
		% of total	34,8%	19,5%	54,3%
		Frequency	83	18	101
		% of gender	82,2%	17,8%	100,0%
	Girls	% of question 13	51,9%	29,5%	45,7%
		% of total	37,6%	8,1%	45,7%
		Frequency	160	61	221
		% of gender	72,4%	27,6%	100,0%
Total		% of question 13	100,0%	100,0%	100,0%
		% of total	72,4%	27,6%	100,0%

$\bar{x} = 1,28; s = 0,448$

With regard to all students, every third (27.6%) would not be able to live without a mobile phone. Furthermore, almost every fourth ten-year olds (22.6%) and eleven-year old (23.1%) and every third twelve-year-old (39.6%) and thirteen-year-old (33.3%) would not be able to live without a mobile phone.

### Conclusions, limitations and implications

The purpose of the presented study was to find out how the teenagers aged 10 -13 years old from two selected schools use mobile phones. The presented research results indicate that having a mobile phone is something common and therefore normal. Results indicate that the gender and age of respondents differentiate the way they use mobile phone, but especially the differences were visible when the group of boys and girls were compared. Every second student always has a mobile phone with him, more often girls than boys. Over half of the students do not turn off their mobile phone for the night. Every seventh student experienced the feeling of so-called vibrating unit. It should be noted that this experience was much more common in the group of older students who generally use the mobile phones more often and for a long time. Every third student would not be able to live without a mobile phone.

Taking into account the obtained results, attention should be paid to clear gender differentiation. Presented research shows that girls use mobile phones much more often, have longer conversations, send more text messages than boys, less frequently switch off the phone for the night and look forward to answering or talking more eagerly. On this basis, it can be concluded that girls are more vulnerable to addiction to mobile phones. Although they are aware that someone can become addicted to mobile phones. This type of differentiation was also noted in other studies of this issue (see i.e. Warzecha & Pawlak, 2017; Dębski, 2016; Goswami & Rani Singh, 2016). However, researchers explain gender diversity in the use of phones by pointing to specific gender sub-cultures by indicating that boys' use of phones is of a different meaning than girls'. In a way that, girls use it mainly as a tool to communicate and maintain peer groups and contacts and social aspects (such as design, bell and color), boys use it more for themselves, examining its features and as a toy (see Goswami & Rani Singh, 2016).

The results of the presented study also allowed to state that some of the students manifest symptoms that are typical for excessive use of a mobile phone, such as the compulsion to send and receive text messages, the illusion of vibration and the fear of losing a mobile phone. A similar result was obtained in studies conducted by Dębski (2016). This indicates a clear need for intervention. Preventive measures can help to reduce a scale of phonoholism (see also: Hoffmann, 2017). A

significant role is played by information and education strategies which on the one hand should aim to raise the awareness of young people about the proper and safe use of mobile phones and about possible threats. On the other hand, it may be important to develop skills such as managing own free time, rest, “detachment” from virtual reality. The idea is that activities undertaken during the day are not limited to the continuous use of new technologies. This is especially important when excessive use of phones is an escape from problems.

The presented research, apart from the scientific goal, had also a practical one. The obtained results were analyzed by the EDUSA Foundation team in cooperation with the school managements, pedagogues and parents. On this basis, a preventive action plan was developed, which takes into account, inter alia, parents education in the use of mobile phones by children and possible dangers resulting from the dysfunctional use of mobile phones (the importance of this type of activities was also emphasized by Bednarek & Andrzejewska, 2014), preventive classes with students were also planned and carried out. There was also organized at school an action titled “a day without a phone”.

Finally, some research limitations and implications for further research should be noted. Modern technologies are developing extremely fast, new telephone applications are constantly being developed, which are becoming fashionable among children and young people. For this reason, it would be necessary to conduct continuous research on the ways of using mobile phones by young people or longitudinal studies to capture the dynamics of changes over time. To diagnose mobile phone addiction, it would be necessary to use standardized and psychometrically verified tools developed on the basis of diagnostic criteria for addictions. Moreover, in the presented study, only text messaging (SMSs) and telephone conversations were taken into account. Meanwhile, perhaps more important thing for teenagers is writing messages in Messenger (the official application intended for communication with Facebook friends, the largest social network). It would be worth considering whether in this case young people become addicted to tools, or rather addicted to activities, or maybe they are dependent on “being up to date”. On the other hand, maybe the analyzed activities are in fact only an expression of present times?

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# **The Effects of Prospective Teacher-Lecturer: Rapport on Prospective Teachers' Attitudes and Self-Efficacy Beliefs towards Teaching Profession**

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## Abstract

*Positive learning environment enhance students' motivation. Student-teacher rapport is a way of building positive classroom environment. The student-teacher rapport has been identified in the literature as a significant factor influencing learning outcomes. Research on student-teacher rapport examined together with the concepts of attitude and self-efficacy is limited. However, to consider student-teacher rapport, attitudes and self-efficacy beliefs towards teaching profession is important to uncover the factors affecting quality in the teaching profession. Thus, to determine the predictive power of student-teacher rapport on prospective teachers' attitudes and self-efficacy beliefs towards teaching profession was the aim of the study. This study was in a correlational design. The study was conducted on 499 prospective teachers who studying in a university located in the western part of Turkey and participating voluntarily in the study, during the 2015-2016 spring term. Data were collected using three instruments, the Teacher-Student Rapport Scale, the Teachers' Sense of Efficacy Scale, and the Attitude Scale of Teaching Profession. Pearson product-moment correlation coefficient (Pearson's  $r$ ) and stepwise-regression analysis were conducted to analyze the data. Results revealed that the student-teacher rapport and the prospective teachers' self-efficacy beliefs and attitudes towards teaching profession were positively and significantly related to each other. Also, the prospective teacher-lecturer rapport had a significant effect on prospective teachers' attitudes and self-efficacy beliefs towards the teaching profession. While prospective teacher-lecturer rapport predicted 8% of the prospective teachers' attitudes towards the teaching profession, the rapport between prospective teacher and lecturer predicted 10% of the prospective teachers' self-efficacy beliefs towards the teaching profession.*

**Keywords :** Student-teacher rapport, attitude, self-efficacy, prospective teachers.

## Introduction

Human beings have the basic need to feel socially connected with others (Maslow, 1943). Classrooms, which are special environments for learning, have distinctive characteristics that have an influence on student motivation. Classroom environment means not only physical but also the psychological environment. The students feel safe and secure themselves, effectively learn, and engage learning process actively in the ideal classroom (Ormrod, 2006). Creating a positive learning environment promotes to improve students' motivational states, which directly support student engagement. One reasonable method to create positive classroom environment is through building rapport. Student-teacher rapport is described as a perception built on a relationship (Frisby and Gaffney, 2015) based on trust, liking, connection, and enjoyment (Wilson, Ryan, and Pugh, 2010; Gremier and Gwinner, 2000). The student-teacher rapport has been recognized in the literature as an important factor affecting academic and behavioral progress in learning environment (Benson, Cohen, and Buskist, 2005; Buskist and Saville, 2001; Lowman, 1994; Wilson and Ryan, 2013). The concept of student-teacher rapport which includes various variables linked to attitudes and behaviors is expected to influence properties of the students (Coupland, 2003; Woolfolk, 1993). So, powerful teacher-student rapport is considered to improve a student's achievement (Frisby & Martin, 2010), classroom engagement, and motivation (Benson, Cohen, & Buskist, 2005; Buskist & Saville, 2004; Wilson et al., 2010).

It can also decrease anxiety, support social communication, foster a positive learning environment, and increase learning (Frisby & Martin, 2010).

The relationship between a student and the teacher is identified by explicitly or implicitly interaction (Mehrabian, 1981). Interpersonal perceptions and communicative relationships between teachers and students are essential to the instructional process, and rapport between students and teacher is a significant factor in those relationships (Andersen, 1979). The quality of this relationship feeds students' emotional well-being, motivation, and achievement (Ormrod, 2006; Meyer and Turner, 2002; Downey, 2008). Research indicated that student-teacher rapport is correlated with learning and other student outcomes (Gorham, 1988; Wilson, Ryan, & Pugh, 2010; Frisby & Myers, 2008; Frisby & Martin, 2010).

To increase the quality of rapport in learning environment, teachers should build a classroom atmosphere having a sense of community which means a sense of belonging (Osterman, 2000). This kind of classroom climate which teachers and their students are respectful and supportive to each other promotes a sense of belonging. Belongingness is one of the lower-level needs including having close relationships with others, belonging to groups, and having close friends (Maslow, 1968). Promoting this feeling in classroom environment makes students feel themselves as valuable individual in classroom (Anderman, 2002). Students having a sense of community are more tend to behave socially, stay on task, are interested in classroom activities, and succeed at high levels (Ormrod, 2006), accordingly develop positive attitudes toward course and the teacher. To build positive learning environment, it require to have positive attitude. The positive relationship between prospective teachers and their lecturers may develop positive attitude towards teaching profession in prospective teachers.

Efficacy belief is mainly regarded as a significant determinant associated with the creation of a positive teaching and learning process (Bandura, 1977; Schunk, 1984; Gibson and Dembo, 1984; Scott, 1996). People with high self-efficacy belief, will propose task performance with more determination, believing that they have the ability to manage challenges. People who are doubtful about their abilities to achieve complex tasks consider them as a threat, avoid them (Bandura, 1994, 1997). There are four sources of efficacy: mastery experience, vicarious experience, verbal persuasion, and emotional state (Bandura, 1994, 1997). Student-teacher rapport affects students' self-efficacy beliefs through the social persuasion and emotional states. While social persuasion includes verbal clues imposed by people in social environment, emotional states is affective situations have influence on students. In that, self-efficacy is a motivational factor which is a significant component of academic engagement of students (Linenbrink & Pintrich, 2003).

Because teacher self-efficacy is related to the qualifications of teachers, it is required to design teacher education to develop self-efficacy beliefs of prospective teachers. Self-efficacy is more flexible at the beginning stages of learning, so it is believed that the major influences in the development of teacher self-efficacy are the experiences in pre-service teacher education and the beginning of the profession (Mulholland & Wallace, 2001; Woolfolk-Hoy & Burke-Spero, 2005).

Thus, one can estimate that rapport that builded by lecturer may also affect prospective teachers' attitude and self-efficacy beliefs towards teaching profession. This study aims to examine the predictive power of prospective teachers-lecturer rapport on prospective teachers' attitudes and self-efficacy beliefs towards teaching profession.

## Methods

### *Model*

The correlational method was used in this study. The correlational research explores relations between variables (Creswell, 2012). This study investigated both the correlation between prospective teacher-lecturer rapport on prospective teachers' attitudes and self-efficacy beliefs towards teaching profession and the predictive role of prospective teacher-lecturer rapport on prospective teachers' attitudes and self-efficacy beliefs towards teaching profession.

### *Participants*

The participants of the study consisted of 499 prospective teachers studying in the pedagogical formation certificate program in Bulent Ecevit University Ereğli Faculty of Education in the spring term of 2015-2016 academic year. Participants included 206 males, 293 females who voluntarily participated in the study.

### *Instruments*

The instruments of the study were the Teacher-Student Rapport Scale, the Attitude Scale of Teaching Profession, and the Teachers' Sense of Efficacy Scale.

#### *Teacher-Student Rapport Scale*

Teacher-Student Rapport Scale developed in 2013 by Wilson and Ryan, was adapted into the Turkish by Akin, Akin, Kaya, Civan, Kaya, and Sahranç (2014). As a result of confirmatory factor analysis applied for construct validity, it was found that the scale had two dimensions (respectively "student rapport" and "perception of teacher") as in the original form and consisted of 15 items. The Cronbach's alpha ( $\alpha$ ) internal consistency of the sub-dimensions were respectively found to be .90 and .70, and .90 for the entire scale. For this study, the Cronbach's alpha ( $\alpha$ ) internal consistency for the sub-dimensions were respectively found to be .76 and .93.

#### *Attitude Scale of Teaching Profession*

This scale developed by Üstüner (2006) was utilized to examine the prospective teachers' attitudes towards teaching profession. There was a one factor, and consisted of 34 items. Cronbach's alpha ( $\alpha$ ) internal consistency of the scale was .93. For this study, the Cronbach alpha ( $\alpha$ ) internal consistency was .91.

#### *Teachers' Sense of Efficacy Scale*

Teachers' Sense of Efficacy Scale was developed by Tschannen-Moran and Hoy (2001) and adapted to Turkish by Çapa, Çakıroğlu and Sarıkaya (2005) The scale had three dimensions, respectively "student participation", "instructional strategies" and "classroom management", and consisted of 24 items. The Cronbach's alpha ( $\alpha$ ) for the dimensions were .82, .86, and .84. For this study, the Cronbach alpha ( $\alpha$ ) scores was .95.

## Data Analyses

In order to decide analysis method, a skewness and kurtosis values of the data were examined. Between the values of +1.5 and -1.5 were accepted intervals for skewness or kurtosis (Tabachnick and Fidell, 2007). Pearson product-moment correlation coefficient (Pearson's  $r$ ) was conducted to decide whether a significant statistical correlation was among prospective teacher-lecturer rapport, prospective teachers' attitudes and self-efficacy beliefs towards teaching profession. Also, stepwise regression analysis was conducted to examine the effect of the prospective teacher-lecturer rapport on prospective teachers' attitudes and self-efficacy beliefs towards teaching profession.

## Findings

In line with the aim of the study, Pearson-product moment correlations and stepwise regression analyses were conducted. The findings obtained as a result of these analyses were presented below.

## Correlation Analysis

At first, for the purpose of the study, the correlations among the prospective teacher-lecturer rapport, the prospective teachers' attitudes, and self-efficacy beliefs towards teaching profession were examined. So, Pearson product-moment correlation coefficient was conducted. Correlation coefficients, means, and standard deviations are presented in table 1.

Table 1. *Correlation table*

	StuRap	PercT	Attitude	Self-eff
St.Rap	1,000	-	-	
PercT	0,690**	1,000	-	
Attitude	0,258**	0,248**	1,000	
Self-eff	0,291**	0,298**	0,381**	1,000
M	3,68	3,81	4,24	7,11
SD	0,76	0,84	0,56	0,95
Min	1,00	1,00	2,19	3,17
Max	5,00	6,56	6,22	9,00

\* $p < 0,05$ ; \*\* $p < 0,01$ ; StuRap: Student Rapport; PercT: Perception toward teacher; Self-eff: Self-Efficacy.

As seen in Table 1, the prospective teacher-lecturer rapport significantly and positively correlated with the prospective teachers' attitudes and self-efficacy beliefs towards teaching profession. There was a positive, weak, and significant correlation both between the student rapport sub-dimension and prospective teachers attitudes towards profession ( $r=0,258$ ;  $p<0,01$ ) and between prospective teachers' perceptions of teacher sub-dimension and their attitudes toward teaching profession ( $r=0,248$ ;  $p<0,01$ ).



Also, there was a positive, weak, and significant correlation both between prospective teachers' self-efficacy beliefs and the sub-dimension of student rapport ( $r=0,291$ ;  $p<0,01$ ), and between their self-efficacy beliefs and the sub-dimension of perception of teachers ( $r=0,298$ ;  $p<0,01$ ) (see table 1).

Stepwise regression analysis was conducted to determine the predictive power of prospective teacher-lecturer rapport on the prospective teachers' attitudes and self-efficacy beliefs towards teaching profession. The prospective teachers' attitudes and self-efficacy beliefs towards teaching profession are the dependent variables, and the prospective teacher-lecturer rapport is the independent variable of this study.

The findings related to the prospective teacher-lecturer rapport's prediction of prospective teachers' attitude toward teaching profession are presented in table 2.

Table 2. Regression analysis for attitude

Step	Predictors	R	R <sup>2</sup>	Change	$\beta$	F	p
1	St.rapport	0,258	0,067	0,067	0,258	35,524	0,000
2	St.rapport PercT	0,276	0,076	0,009	0,166 0,134	20,443	0,000

$p<0,001$

Dependent variable: Attitude; Independent variable: student rapport, perception toward teacher.

Student rapport alone predicted approximately 7% of the prospective teachers' attitudes towards profession (F Change =35,524). The prospective teachers' rapport and perception towards lecturer predicted approximately 8% of total variance of prospective teachers' attitude scores (F Change =20,443).

Table 3. Regression table for self-efficacy beliefs

Step	Predictors	R	R <sup>2</sup>	Change	$\beta$	F	p
1	St.rapport	0,298	0,089	0,089	0,298	48,471	0,000
2	St.rapport PercT	0,320	0,103	0,014	0,186 0,162	28,365	0,000

$p<0,001$

Dependent variable: Self-efficacy; Independent variable: student rapport, perception toward teacher

Student rapport alone predicted approximately 9% of the prospective teachers' teaching self-efficacy beliefs (F Change=48,471). The prospective teachers' rapport and perception towards their lecturer predicted 10% of total variance of prospective teachers' teaching self-efficacy-beliefs (F Change =28,365).

## Conclusion and Discussion

In this study, it was examined the predictive power of prospective teacher-lecturer rapport on prospective teachers' attitudes and self-efficacy beliefs towards teaching profession. When the findings were examined, it was concluded that the rapport between

prospective teachers and their lecturer was an effective factor on prospective teachers' attitudes and self-efficacy beliefs towards teaching profession.

The results of the regression analysis showed that prospective teachers who were in an effective relationship with their lecturer tend to have positive attitudes towards teaching profession. Previous research showed that student-teacher rapport is directly related to students' attitudes (Benson et al., 2005; Wilson et al., 2010), it also has a linear relation with positive student outcome (Gorham and Christophel, 1990; Gorham, 1988; Meyers, 2009). Also, studies of student-lecturer rapport in higher education revealed mostly positive link between rapport and higher motivation, positive attitude toward the course (Wilson, 2006; Wilson & Ryan, 2013). In teacher training programs, prospective teachers should gain positive attitude towards the profession to be effective in teaching profession. Moreover, to train qualified teachers, it was needed to determine the attitudes of prospective teachers to the profession in order to increase the success of the program and to revise it (Semerci and Semerci, 2004).

The results of the regression analysis also revealed that prospective teacher-lecturer rapport predict significantly prospective teachers' self-efficacy beliefs. As noted earlier, to increase the quality of rapport in learning environment, teachers should also build a positive classroom atmosphere (Osterman, 2000). This positive learning environment also affects students' self-efficacy beliefs. Because self-efficacy beliefs are most flexible early in learning stages, teacher educators also need to support prospective teachers for the development of strong self-efficacy beliefs (Tschannen-Moran and Hoy, 2007). Supportive teacher behaviors are a significant predictor of prospective teachers' self-efficacy beliefs through both verbal persuasion (Milner and Hoy, 2003; Knoblauch and Hoy, 2008) and emotional states by increasing students' physical and emotional well-being and reducing negative emotional states (Usher and Pajares, 2009). Also, supportive learning environments created by communication directly impact students' learning outcomes (Arends, 1988; Santrock, 1976) and the development of the prospective teachers' self-efficacy beliefs (Knoblauch and Hoy, 2008). So, teachers who has an important role in building positive classroom environment have an influence on the behaviors of their students (Arends, 1988). Gage (1978) stated that fostering positive classroom atmosphere verbally and cognitively supporting students, planning to meet the needs of them, respecting their ideas, and identity affect students learning outcomes. The climate of the learning environment is a critical component of teachers' environments related to self-efficacy. Previous studies also showed that the relationship between lecturer and prospective teacher affect prospective teachers self-efficacy beliefs (Knoblauch and Hoy, 2008; Hoy, 2005). Hoy (2005) found a moderate, positive relationship between self-efficacy beliefs and student teachers' perception of mentor support. This conclusion implies that an effective interaction between prospective teachers and their lecturer provides prospective teachers to develop positive self-efficacy. Thus, it is reasonable to suppose that prospective teachers who were in an environment of rapport have higher self-efficacy beliefs due to the positive learning environment generated from relationships between student and teacher.

Consequently, the present results may help teacher educators to develop prospective teachers' positive attitude and self-efficacy for teaching profession. By assisting prospective teachers in instructional setting, they may develop prospective teachers'

efficacy perceptions (Moulding, Stewart, and Dunmeyer, 2014). This present study has revealed some important findings, but more research is necessary to better understand the connections among prospective teacher-lecturer rapport, prospective teachers' attitudes and self-efficacy beliefs towards teaching profession.

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# **Dimensions of School Climate Associated with Reports of Bullying and Victimization in a Setting Serving Predominantly Latino Youth**

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## Abstract

*Over the past decade, there has been increased recognition of the importance of school climate and school climate reform to address school violence. School climate has been found to have a significant impact on bullying reports and victimization, however correlations between these variables may differ among Latino, economically disadvantaged youth. Results indicated that reports of witnessing bullying and bullying victimization were correlated to the Teaching and Learning, Relationships, or Emotional Environment dimension, however no correlations were found with the Physical Environment, Community Engagement, and Morale in the School Community dimensions. Implications for school administrators, faculty, and staff are discussed.*

**Keywords:** Bullying, school climate, victimization, Latino

## Introduction

School districts across the United States have transitioned to interventions focused on school climate reform as a catalyst to address and impact school violence over the past decade (American Institute for Research, 2015; Steffgen, Recchia, & Viechtbauer, 2013; Thapa, Cohen, Guffrey, & Higgins-D'Alessandro, 2013). School climate reform has also gained popularity due to positive correlations found between school climate and reduction of risky behaviours in students (Klein, Cornell, & Konold, 2012), student willingness to seek help in situations involving bullying (Eliot, Cornell, Gregory, & Fan, 2010), and negative correlations with bullying behaviours (Wang, Berry, & Swearer, 2013).

Bullying prevention research highlights specific characteristics that may predispose specific students to have a higher likelihood of becoming a target of bullying behaviours (Esbensen & Carson., 2009; Nansel et al., 2001). A recent survey conducted by the Human Rights Campaign (2016) found Latino youth to be 20% more likely to be victims of bullying than their non-Latino peers. Latino youth surveyed reported changing their appearance, fearing speaking Spanish, and changes in their personal behaviours due to fear of bullying or harassment (HRC, 2016). Although research indicates school climate is an important factor in the prevention of school violence among youth (Klein et al., 2012), current studies also indicate that Latino youth may not benefit from the same protective factors or be burdened by the same risk factors, associated with school climate, as their non-Latino peers (Hong et al., 2014). For example, positive relationships with teachers is considered a protective factor associated with school climate. However, a research study found student-teacher relationships and parent-teacher relationships may be impacted by the reluctance of staff to contact Latino parents due to language barriers (Olsen, 2008). Additionally, some teachers and staff may hold negative or prejudicial attitudes toward Latino students which may limit their capabilities to provide an effective educational environment (Olsen, 2008; Suárez-Orozco, Suárez-Orozco, & Todorova, 2008).

Economic disadvantage, or perceptions of economic disadvantage, adds an additional dimension when investigating correlations between school climate, bullying victimization, and race. Research findings indicate economic disadvantage can place a student at higher risk of bullying victimization. A meta-analysis of 22 studies on bullying and socioeconomic status (SES) found a strong association between targets of bullying and economically disadvantaged and although low SES was a poor predictor of bullying others, it was associated with higher odds of being a victim or bully-victim (an individual who may have been a target of bullying behaviours at some point and either currently, or simultaneously perpetrates bullying behaviours) (Tippett & Wolke, 2014). Economically

disadvantaged youth are more likely to attend large, overcrowded schools associated with high levels of bullying behaviour (Barnes, Belsky, Broomfield, & Melhuish, 2006). Bullying has been found to be correlated with poor health outcomes later in life, especially in children from economically disadvantaged backgrounds (Due, Damsgaard, Lund, & Holstein, 2009). In a comparative, cross-sectional, multilevel study conducted in 35 countries, due and colleagues found that children from less affluent families and from countries and schools with wide economic disparities were more likely to experience bullying (Due et al., 2009). A follow up study found that children from economically disadvantaged backgrounds who were exposed to bullying were more likely to suffer from depression later in life than their more affluent counterparts (Due et al., 2009).

The implementation of school climate interventions and reduction of school related violence may support adherence to Every Student Succeeds Act (ESSA) (Klein, 2015) by improving the overall school and the academic environment and increasing equal access to education. The authors noted that some dimensions of the environment (e.g., school, neighbourhood) may also place children in low SES families at a higher risk of being victimized.

The preceding findings were the impetus for the current study. The purpose of the current study was to identify which specific dimensions of school climate contributed to reports of bullying and victimization in an urban, private secondary school setting serving primarily Latino, economically disadvantaged youth. After a review of school climate literature, our assumptions were that all dimensions of school climate would significantly predict bullying and victimization. Data from a school climate survey was analysed to address the following research questions: 1) which dimensions of school climate are correlated with student reports of bullying? and 2) which dimensions of school climate are correlated with student reports of bullying victimization?

## **School Climate, Bullying, and Latino Youth**

### *Defining School Climate*

There is not a current consensus among researchers regarding a specific definition of school climate, but the most frequently used definition of school climate was developed by The National School Climate Council (Thapa et al., 2013). The National School Climate Center (2015) recommends the following definition of school climate and a sustainable, positive school climate respectively:

“School climate is based on patterns of people’s experiences of school life and reflects norms, goals, values, interpersonal relationships, teaching and learning practices, and organizational structures.” (NSCC, 2015, para.3).

“A sustainable, positive school climate fosters youth development and learning necessary for a productive, contributive, and satisfying life in a democratic society. This climate includes norms, values, and expectations that support people feeling socially, emotionally and physically safe. People are engaged and respected. Students, families and educators work together to develop, live, and contribute to a shared school vision. Educators model and nurture an attitude that emphasizes the benefits of, and satisfaction from, learning. Each person contributes to the operations of the school as well as the care of the physical environment. ” (NSCC, 2015, para. 4).

### *Domains and Dimensions of School Climate*

School climate research refers to aspects of the environment as domains and dimensions. Thapa and colleagues (2013) identified the following five dimensions of school climate after conducting an extensive review of school climate research : (a) Safety (e.g., rules and norms, physical safety, social-emotional safety); (b) Relationships (e.g., respect for diversity, school connectedness/engagement, social support, leadership, and students' race/ethnicity and their perceptions of school climate); (c) Teaching and Learning (e.g., social, emotional, ethical, and civic learning; service learning; support for academic learning; support for professional relationships; teachers' and students' perceptions of school climate); and (d) Institutional Environment (e.g., physical surrounding, resources, supplies), and (e) the School Improvement Process (p. 359). A review of school climate research conducted by Wang and Degol (2015) identified four domains and 13 dimensions of school climate; "(a) academic (i.e., teaching and learning, leadership, professional development); (b) community (i.e., quality of relationships, connectedness, respect for diversity, partnerships); (c) safety (i.e., social and emotional safety, physical safety, discipline and order); and (d) institutional environment (i.e., environmental adequacy, structural organization, availability of resources." (p. 321).

A positive school climate may support student academic achievement and positive social-emotional development (Sherblom, Marshall, & Sherblom, 2006; Way, Redd, & Rhodes, 2007). Person-environment theories posit that positive school climate is correlated with academic achievement due to an increase in academic motivation and interest (Moos, 1987). These concepts support the relationship between academic performance and social emotional well-being and student perceptions of how their personal abilities, preferences, and characteristics are congruent with the social processes of their setting (Moos, 1987).

### *Latino students and perceptions of school climate*

Researchers have investigated differences in student perceptions of school climate based on race including Slaughter-Defoe and colleagues (1996) survey of 1260 African American and Latino, third grade students. Latino and African American student perceptions of the importance of specific dimensions of school climate varied. Latino students perceived teacher fairness, praise, and caring for students to be most important (Slaughter-Defoe, & Carlson, 1996). More recently, Voight and colleagues (2015) conducted a study to investigate racial gaps in perceptions of school climate and correlations with racial achievement gaps in middle schools. Latino students had lower perceptions of school safety, connectedness, perceived opportunities for participation, and adult-student relationships than their White counterparts. Racial differences or gaps between Latino and White student perceptions of adult-student relationships and opportunities for meaningful participation were found to be due to within school differences. Racial gaps in perceptions of school connectedness and safety were found to be due to between school differences.

### *Bullying and School Climate*

The U.S. Department of Education, the Centers for Disease Control, and a significant number of State Departments of Education consider school climate reform to be an essential part of bullying prevention (Cohen & Friedberg, 2013; Thapa et al., 2013). Bullying behaviours and school climate have been found to be negatively correlated, the more supportive and positive the school climate, the less likely bullying behaviours are tolerated by stakeholders in the school (Cohen & Friedberg, 2013). Positive school climate

supports the reduction of aggressive behaviours by promoting safe and healthy relationships and safe environments and increasing the presence of positive role models demonstrating prosocial behaviours, such as teachers, administrators, and staff (Cohen, 2014; Espelage, Low, & Jimerson, 2014). In a recent study conducted by Acosta and colleagues (2018) indicated that positive school climate in secondary school settings had a positive impact on students' experiences of cyberbullying, increased student perceptions of school connectedness and peer attachment and students reported greater levels of assertiveness and empathy. Associations between peer aggression and positive school climate remain positive among some students with racial/ethnic differences. Konold and colleagues found significant differences in associations between school climate, peer aggression, and school engagement between Black and White youth, however there were no significant differences found between White and Latino youth. Although racial and ethnic differences among youth and associations between bullying and school climate may differ, overall a positive school climate has a positive impact on student perceptions of bullying. School climate reform, in urban settings, may encounter several barriers such as higher staff /administration turnover, limited funding, larger class size, higher rates of staff assaults, and higher prevalence of workplace bullying.

Students of colour and students from economically disadvantaged backgrounds perceptions of school climate may be impacted differently than others based on various factors. Students from economically disadvantaged backgrounds and students of colour may experience disproportionately more negative outcomes in school and multiple areas (Civil Rights Data Collection, 2014). Negative outcomes can be reflective of school climates that are not considerate of or inclusive of economically disadvantaged students or students of colour and are more considerate of White middle class culture (Silva, Langhout, Kohfeldt, & Gurrola, 2015). Students of colour and students from economically disadvantaged backgrounds may receive harsher discipline and consequences than their White peers and have been found to experience a disproportionate number of suspensions, expulsions, and discipline referrals (Lewis, Butler, Bonner, & Joubert, 2010; Skiba, Michael, Nardo, & Peterson, 2002). These differences in the school experiences of students of colour and White students, and the disadvantages experienced by students of colour and students from economically disadvantaged backgrounds make it important to consider race when assessing school climate (Hope, Skoog, & Jagers, 2015; Shirley & Cornell, 2012).

Economically disadvantaged student perceptions of school climate have been found to be a moderating factor between poverty and behaviour (Hopson & Lee, 2011). This study suggests that the climate of schools that serve predominantly economically disadvantaged students put them at risk of being the target of bullying. The study confirms that Latino students may perceive school climate differently than their European American peers. Learning about which dimensions of school climate are related to bullying and victimization will provide an initial foundation to develop targeted interventions and implement policy changes to reduce bullying and prevent its deleterious consequences.

## **Methods**

### *Participants*

The sample included 361 students (N=361) reflected an urban, private, secondary school in the Eastern United States with a preponderance of Latino students and economically disadvantaged youth. There were 165 (46%) males and 196 (54%) females. In addition, 35 % of the participants were 9th graders (n=125), 28 % 10th graders (n=102), 20 % 11th graders (n=72), and 17 % 12th graders (n=62). Sample ethnicity was composed



of 271 Latino students (75%), 67 African American students (19%), 3 Asian/Pacific Islander students (1%), 7 Caucasian students (2%), and 13 others (4%). One hundred percent of the sample are eligible or receive free or reduced lunch as it is a requirement to attend the school.

Table 1. *Demographics of the students*

Category	<i>N</i>	%
Gender		
Female	196	54
Male	165	46
Grade		
9 <sup>th</sup>	125	35
10 <sup>th</sup>	102	28
11 <sup>th</sup>	72	20
12 <sup>th</sup>	62	17
Race/Ethnicity		
Caucasian/White	7	2
Black/African American	67	19
Latino	271	75
Asian/ Pacific Islander	3	1
Other	13	4
Report of bullying occurrences	86	23.31
Report of bullying victimization	43	11.65

### *Data Collection*

A link to a web-based student and faculty version of the New Jersey School Climate Survey 2012 was emailed to the school counselor. The web-based survey included an Informed Consent form on the first page of the survey which required students to select “I accept to proceed with the survey.” School counselors facilitated the assent process for students. Students completed the survey in the school’s computer lab by class. Parents were notified of the survey administration via email and through a letter sent home in the mail. Per Institutional Review Board (IRB) guideline, parents were instructed to notify the school if they did not want their child to take part in the survey. This method of consent was approved by the IRB due to the study posing no more than minimal risk to the study participants and the study being classified as exempt. A large percentage of parents were Spanish speaking only, therefore, letters were sent home in English and Spanish. The study and procedures described above were approved by the IRB.

### *Survey Instruments*

*Demographic information.* On the student demographic form, we inquired about gender, race, grade level, years of attendance at the school, and number of clubs students belonged to.

*School climate survey.* Student perceptions of school climate were measured using The New Jersey School Climate Survey 2012 (NJSCS). NJSCS was developed by the New Jersey Department of Education (NJDOE), in collaboration with the Bloustein Center for Survey Research (BCSR) at Rutgers University to collect and analyze information

from diverse school populations to reinforce positive school climate and address vulnerabilities in conditions for learning.

NJSCS (2012) student survey included questions organized into six areas or dimensions: (a) Physical Environment, which measures scheduling, the use of the building, and attitudes toward the building comprised 4 items including “My school is kept clean”; (b) Emotional Environment, which measures attitudes toward physical safety, the social environment, and individual emotional safety, comprised 11 items including “Most students in my school do all their homework”; (c) Teaching and Learning, measured the academic climate of the school and probes support for student development, levels of instructional challenge and relevance, attitudes about ownership of teaching and learning, and general attitudinal measures of satisfaction with the schools’ overall instructional quality and consisted of 16 items including “My teachers think all students can do challenging school work”; (d) Relationships, measuring depth, sincerity, and authenticity of communication efforts and the fairness of the administration of the school’s academic and social environments (14 items). A sample item is “Students at this school are often teased or picked on”; (e) Community Engagement, measuring incorporation of parents and community members into social and academic life of the school (3 items). A sample survey question from this dimension is “My family wants me to do well in school”; and (f) Morale in the School Community, measuring the school’s ability to support and rally the local community to healthy and positive outcomes (3 items). A sample question is “I wish I went to a different school”. Participants respond to each item using a 5-point Likert scale ranging from 1=Strongly Disagree; 2=Disagree; 3=Neutral; 4=Agree to 5=Strongly Agree.

Mean and median score for each dimension of school climate were calculated and used for analyses, with higher scores indicating higher (more positive) perceptions of each dimension of school climate. The internal consistency reliability for this instrument in the current study was  $\alpha=.94$ .

*Bullying.* Student reports of experiences with bullying was measured using self-report questions. Participants were given a definition of bullying (“Bullying specifically involves 3 things: An unwanted aggressive behavior, a real or perceived power imbalance, and a behavior is repeated, or has potential to be repeated over time”) and asked 2 self-report questions. Occurrence of bullying was measured by an item asking: “Does bullying occur at your school?” Student’s experience of bullying victimization was assessed through an item: “Have you been a victim of bullying during this school year?” We used a categorical scale; “1=yes”, “2=No”, “3= I am not sure.” for the occurrence of bullying and “1=yes”, “2=No”, “3= No, but I am aware of a person who has.” for the report of victimization.

### *Data Analysis*

Students were informed that they were not required to answer every question in the survey and this resulted in about 87% of all eligible students completing the entire survey. Manual calculation of domain scores identified about 75 cases of missing data. The following method was employed to reduce the number of cases; if a participant answered at least 60% of the questions in a specific domain, the average of those answers was used to calculate domain scores. If a participant answered less than 60% of the questions in a specific domain, their response was considered a missing data point. Normality and heteroscedasticity of the data were examined. Almost all the data was located in the 95% confidence interval of an Anderson-darling Normality test and heteroscedasticity did not seem to be a problem. However, the Community Engagement for students was not

normally distributed and median score was calculated instead of mean. Statistical analyses were conducted with the assistance of the Statistics Consulting Center.

Two sets of binary logistic regression analyses were conducted to evaluate which, if any, of the six dimensions (Physical Environment, Emotional Environment, Teaching and Learning, Relationships, Moral in the School Community, Community Engagement) were associated with the occurrence of bullying in the school and students' perceptions of bullying victimization. Scores on each dimension of school climate were used as predictor variables. Occurrence of bullying and experience of victimization, the outcome variables in this study, were dichotomized for analysis by logistic regression. Two questions were used ("Does bullying occur at your school?" and "Have you been a victim of bullying while you have been at this school?") and responses were coded in 0 (No) or 1 (yes). "No" responses were pooled with "Not Sure" due to no significant differences being found between the two responses.

## Results

The percentage of respondents who reported occurrences of bullying and experiences of bullying victimization were analyzed and presented in Table 1. Data revealed that 23.31% of students reported that bullying occurs at school and 11.65% of students reported that they had been a victim of bullying. A chi-square test of association assessed whether demographic variables of gender, grade level, and race/ethnicity were significantly related to reports of bullying and being victimized. There is a statistically significant difference in gender ( $p=.03$ ) that female students (16.1%) were more likely to report victimization than male students (7%). There are no significant differences between the other demographic variables and bullying. A summary of students' perceptions of the six domains of school climate (Physical Environment, Emotional Environment, Teaching and Learning, Relationships, Moral in the School Community, Community engagement) are presented in Table 2. The most positively rated domain of school climate was the Community Engagement domain. (Median= 4.67) and the least positively rated domain was the Physical Environment domain ( $M= 3.11$ ,  $SD= .66$ ).

Table 2. *Students' perception of school climate*

Dimension	<i>N</i>	<i>M (SD)</i>
Physical environment	349	3.11 (0.66)
Emotional environment	325	3.46 (0.50)
Teaching and learning	312	3.44 (0.56)
Relationships	322	3.33 (0.56)
Moral in school community	324	3.35 (0.87)
Community engagement	322	4.67

### *Logistic Regression Analyses*

*Effects of school climate on reports of bullying occurrences.* Table 3 shows the results from two logistic regression models of occurrence of bullying and experience of bullying victimization. The first logistic regression model of Teaching and Learning was positively associated with student reports of bullying experiences ( $\beta= 1.115$ ,  $p = .005$ ), while Relationships ( $\beta= -1.827$ ,  $p < .001$ ) and Emotional Environment ( $\beta= -.973$ ,  $p = .034$ ) were negatively (inversely) related to student reports of bullying, so that the odds ratios indicate students' perceptions of specific school climate dimensions were significantly associated with higher odds of student reports of bullying experiences. Each unit increase in teaching and learning dimension increased the odds of student reports of bullying

experiences was 3.05 times. The relationship dimension was associated with 84% lower odds of student reports of bullying experiences and the emotional environment was associated to 62% lower odds of student reports of bullying experiences. Logistic regression analyses of the community engagement, physical environment, and morale in the school community dimensions did not produce a statistically significant result.

*Effects of school climate on reports of bullying victimization.* The second logistic regression model showed student perceptions of the Relationships dimension and Teaching and Learning dimension to be significant predictors of reports of victimization. The Relationships dimension was inversely related to victimization of bullying ( $\beta = -1.516$ ,  $p = .003$ ) and the Teaching and Learning dimension was significantly associated to victimization ( $\beta = 1.059$ ,  $p = .028$ ). Specifically, students who had positive perceptions of the Relationships dimension (OR = 0.22) were less likely to report bullying victimization, while students who had positive perceptions of the Teaching and Learning dimension (OR=2.88) were more likely to report bullying victimization. Logistic regression analyses of the Community Engagement, Physical Environment, Emotional Environment, and Morale in the School Community dimensions were not statistically significant predictors of student reports of bullying victimization.

Table 3. *Logistic regression of dimensions of school climate on reports of bullying*

predictors	Bullying occurrence				Victimization			
	$\beta$	SE	OR (95% CI)	p- value	$\beta$	SE	OR (95% CI)	p- value
Community engagement	.210	.194	1.23 (0.84, 1.80)	.272	.054	0.234	1.066 (0.67, 1.67)	0.815
Relationships	-1.827**	.452	.16 (0.07, 0.39)	<.001	-1.516**	0.518	0.22 (0.08, 0.61)	.003
Teaching and learning	1.115**	.404	3.05 (1.38, 6.73)	.005	1.059*	0.488	2.88 (1.11, 7.51)	.028
Emotional environment	-0.973*	.470	0.38 (0.15, 0.95)	.034	-0.796	0.562	0.45 (0.15, 1.36)	.151
Physical environment	-0.267	.274	0.77 (0.45, 1.31)	.331	-0.116	0.334	0.89 (0.46, 1.71)	.728
Moral in the school community	-0.240	.227	0.79 (0.50, 1.23)	.291	-0.080	0.275	0.92 (0.54, 1.58)	.772
$\chi^2$	65.75***				27.38***			
$R^2$	.18				.11			
adjusted $R^2$	.17				.08			

## Discussion

### *Student Reports of Bullying Incidents and Victimization*

School climate research often analyses school climate as a whole, including all dimensions of school climate in data analysis. This study is one of few studies to analyse

specific dimensions of school climate as predictors of student reports of bullying experiences and bullying victimization. Even fewer studies have been conducted among predominantly Latino, economically disadvantaged youth in secondary settings. We found student perceptions of the Teaching and learning dimension were positively associated with student reports of bullying. Positive student perceptions of the Emotional Environment and Relationships dimensions were associated with a decrease in student reports of bullying. This finding is supported by current research studies which denote the importance of the teacher's role in bullying prevention (Veenstra, Lindenberg, Huising, Sainio, & Salmivalli, 2014). Teachers are on the front lines and are usually the first point of contact for a student who may report witnessing bullying (Lund, Blake, Ewing, & Banks, 2012). Our findings denote similarities in student perceptions of dimensions directly related to teachers' roles and functions in a sample of predominantly Latino, economically disadvantaged youth. Contrary to previous research findings on school climate dimensions and their relationship to reports of bullying, the Community Engagement, Physical Environment, and Morale in the School dimensions were not significantly predictive of student reports of bullying (Bradshaw, Waasdorp, Debnam, & Johnson, 2014; Gase et al., 2017; Konishi, Miyazaki, Hymel, & Waterhouse, 2017).

Student perceptions of the Relationships and Teaching and Learning dimension were found to be predictive of student reports of bullying victimization. Positive perceptions of the Relationships dimension were found to be inversely associated with student reports of bullying victimization. This finding is consistent with the literature as perceived social support has been found to be a moderator of bullying victimization (Davidson & Demaray, 2007; Rothon, Head, Klineberg, & Stansfeld, 2011). This result is also supported by previous studies that students' levels of school connectedness are related to their experience of peer victimization (O'Brennan & Furlong, 2010). Students who perceive the school environment to be socially supportive are less likely to report being a victim of bullying. Brewster and Bowen (2004) stated that teacher support is significant for the school engagement of Latino middle and high school students. Positive perceptions of the Teaching and Learning dimension, however, were positively associated with student reports of bullying victimization. In a review of the impact of whole school interventions on bullying, the most significant predictor of positive outcomes was the teacher-student relationship (Brewster & Bowen, 2004; Richard, Schneider, & Mallet, 2012).

It was surprising that the Community Engagement, Physical Environment, and Morale in the School Community dimensions were not found to be predictive of either student reports of bullying or student reports of bullying victimization. These findings are illustrative of the importance of conducting an assessment of school climate prior to the implementation of a bullying prevention program. Thapa and colleagues (2013) confirm the necessity of conducting this task and denote a need for more studies and well defined models of school climate as well. School administrators may implement whole school interventions without taking these steps which can result in ineffective interventions.

The National School Climate Council (2015) advocates for the implementation of school climate interventions as a catalyst to reduce bullying and victimization. Schools serving economically disadvantaged populations with limited funds could customize interventions based on assessment results. The lack of significance regarding the predictive relationship between reports of bullying occurrences and victimization are contradictory to bullying prevention studies using the socioecological model as a foundation (Espelage & Swearer, 2010; Lim & Hoot, 2015; Pepler, Craig, Jiang, & Connolly, 2008; Slocum, Esbensen, & Taylor, 2014; Swearer & Hymel, 2015). Through the application of the socioecological models, research studies have been published



regarding the importance of the role of parents and members of the community in bullying prevention (Axford et al., 2015; Kolbert, Schultz, & Crothers, 2014). The results of this study indicate that there may be some instances in which parent involvement and/or community engagement are not predictive of bullying reports or victimization. These findings may represent the change in parental role as children move from elementary to secondary school settings (Hill & Tyson, 2009).

The Emotional Environment dimension was found to be predictive of student reports of victimization, however it was not found to be predictive of student reports of witnessing bullying. These findings confirm previous research focused on investigating schools with authoritative discipline approaches, school climate, and reports of bullying victimization (Gerlinger & Wo, 2016). Gerlinger and Wo (2016) found that schools which utilize authoritative discipline approaches had significantly less reports of student victimization. More recently, this approach, defined by a highly-structured approach to discipline within school settings, is used in schools with significant numbers of economically disadvantaged youth instead of more exclusionary methods (Cornell, Allen, & Fan, 2012). The implementation of this approach to discipline may explain the lack of significance of this finding.

### *Limitations*

This study sample is limited to a non-random, convenience sample of high school students in a private school. Over 70% of the sample identified as Latino and approximately 100% of the sample were economically disadvantaged youth. Although the sample was illustrative of the specific topic, there were few opportunities for comparison within the school setting. Additional limitations of the study were the use of a self-report instrument and the administration of the instrument in their school setting. Although none of the teachers were present during the administration of the instrument, student opinion could be biased by being in the school and the perception that faculty may at some point have access to the results.

### *Implications and Conclusion*

Our findings highlight several implications for school personnel working with economically disadvantaged youth. First, school personnel need to examine specific dimensions of school climate related to bullying in their school. For example, we found student perceptions of the Teaching and Learning, Emotional Environment and Relationship dimensions are associated with bullying. School personnel should particularly focus on these dimensions to prevent and intervene in situations involving bullying (Smith & Low, 2013; Veenstra, Lindenberg, Huitsing, Sainio, & Salmivalli, 2014).

Schools serving economically disadvantaged youth often encounter budget issues. Tailoring an intervention to the specific needs of the population could maximize effectiveness and impact and, simultaneously, minimize the need for significant funding. Involving family participation, integrating community resources and establishing social networks may produce more significant and sustainable outcomes of interventions aimed at bullying prevention and school climate improvement. Brewster and Bowen (2004) also emphasized the importance of collaboration between school personnel, parents, and the Latino students. This ecological and socio-cultural approach may help school to prioritize programs and curriculums for positive development of marginalized youth.

School counsellors and teachers need to advocate for economically marginalized students by preventing bullying and its potential impacts. Students in lower SES

neighbourhoods are more likely to report bullying others, to be victimized, and perceive others being bullied (Reyes-Portillo, 2013). School counsellors' multicultural knowledge competence was found to be positively related to their intervention in bullying, discrimination, or harassment related to Latino ethnicity (Toomey, & Storlie, 2016). School personnel should take advocacy roles to improve mental health and socioemotional development of these students. Our findings highlighted that positive student perceptions of the Relationships and Emotional Environment dimensions of the school climate, in a low SES school was predictive of lower reports of bullying victimization. Gage and colleagues (2014) also stated that general adult support decreased reports of bullying victimization, not only for high-risk students but for all students. School personnel can work on improving the emotional environments in schools. School counsellors and teachers can improve school connectedness by promoting activities and curriculum focused on relationships, individual or group counselling programs, and ultimately enrich students' overall experience in school.

Our findings highlighted student perceptions of school climate, witnessing bullying and bullying victimization were related to the Emotional Environment, Teaching and Learning, and Relationships dimensions among a sample of predominantly Latino students. These findings differ from previous school climate research studies and support the importance of school administrators and staff being mindful of the impact of culture on the academic and socio-emotional well-being of economically marginalized students. Nasir and colleagues (2017) contended that urban educators must be aware of the impact of racialized stereotypes, reframe those stereotypes, and support student's critical consciousness. For example, if counsellors, administrators, teachers, and staff serve economically disadvantaged youth, they must be cautious and mindful of their own attitudes, biases, and assumptions about this population. School administrators, faculty, and staff should consider culturally unique factors that may impact or influence bullying victimization, reporting, and perpetration. Developing a deeper understanding of how to implement culturally sensitive interventions informed by social justice can also have a significant impact on school climate as well (Amatea & West-Olatunji, 2007).

Continuing education courses focused on serving ethnically marginalized, economically disadvantaged youth could be provided to allow professionals in the field to sharpen their skills and utilize case studies to prepare them for their work with students and families in this population. Moreover, stakeholders at the university level can also serve as consultants within the school community to help members be mindful of their perceptions and biases on economic status, systemic oppression, and school climate and classroom dynamics, and bullying. Wang et al. (2013) also emphasized that education at preservice and in-service level should train school personnel to collaborate with Latino families. Undergraduate and graduate programs, such as Teacher Education, Educational Leadership, and Counsellor Education programs, could modify curriculum to prepare professionals to be more effective in the field when working with this population by infusing information regarding the specific needs of economically disadvantaged youth. Although this information is often discussed in specific courses, such as Multicultural Education, these courses are often taken as an elective. University programs should integrate information regarding special populations throughout curricula in several core courses within undergraduate and graduate programs leading to positions in school settings.

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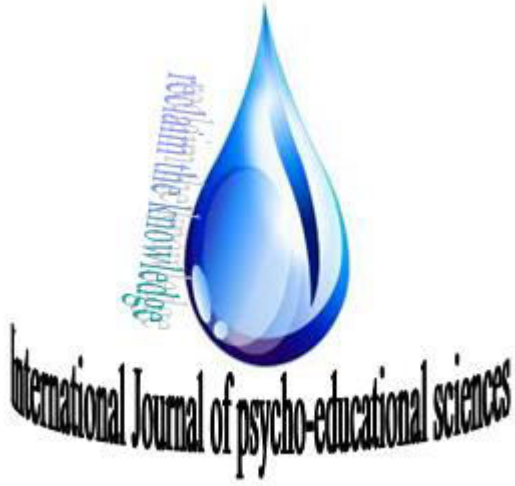
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## Sentence length of Turkish patients with schizophrenia

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## Abstract

*Schizophrenia is a devastating mental disorder that affects thought, language and communication. Considering the language disorders, the aim of this study is to examine the average sentence length of patients with Schizophrenia and compare the results with a control group by using four different language tests. Fifty patients with schizophrenia diagnosed according to DSM-IV criteria have been included in the study and compared to fifty healthy subjects matched for age, sex and education level with the patients. The subjects' speech has been evaluated in four stages. These are narration, story picture sequencing, semi-structured speech and free speech. The data consists of 8-10 minute recorded interviews. The recordings have been transcribed based on DuBois' Discourse Transcription Symbols. The statistical and linguistic analyses have shown significant differences between sentence length's of patients with schizophrenia and control group. Patients with schizophrenia have produced shorter sentences than the control group. In sum, this study concludes that the speech patterns used by Turkish Schizophrenia patients are different in terms of sentence length, and they prefer short and less complicated sentences in communication as a result of their cognitive disorders, including impairment to their attention and abstract thinking abilities.*

**Key words:** Schizophrenia, language disorder, cognitive disorder, sentence length.

## Introduction

Schizophrenia is one of the most serious major psychiatric disorder, usually developing in late adolescence or early adulthood in about 1 in 100 individuals, and often having a profound effect over the lifetime on daily functioning. According to American Psychiatric Association, (2000) people with schizophrenia frequently have difficulties living independently and caring for themselves, working or attending school, fulfilling parental or other role obligations, and enjoying close relationships and rewarding leisure activities. The characteristic symptoms of schizophrenia involve dysfunctions in multiple cognitive and functional spheres that include perception, inferential thinking, language and communication, behavioral monitoring, affect, fluency and productivity of thought and speech, capacity to experience pleasure, decision making, drive, and attention (Vahia & Cohen, 2008).

The presence of deficits in memory, attention, speech and language, and executive functions are among the most extreme and obvious symptoms in Schizophrenia Disorder. These symptoms can be observed in multiple aspects of human language such as phonology, morphology, semantics or pragmatics. Placing events and symptoms in proper time sequence, or determining the consistency and intensity of symptoms over time, may be a challenge. Depending also on the degree of intellectual impairment present, perseverative thinking or speech, or a limited repertoire of responses, can create problems of understanding (Ferrell & Mcallister, 2008). There is also evidence that the speech produced by patients with schizophrenia is syntactically less complex and shorter than that of healthy controls. In addition, patients show some deficits in comprehending long and grammatically complex sentences (Kuperberg, 2010). Subsequent analyses of the speech produced by patients with schizophrenia show that their speech is more grammatically deviant (Hoffman and Sledge, 1988) and less syntactically complex than that of controls (Sanders et al., 1995). Studies also indicate, in the patients' speech, a higher percentage of simple and compound sentences, and fewer dependent clauses that are not deeply embedded (Fraser et al., 1986; Morice and Ingram, 1982).

Language disorders, in sum, has long been considered a diagnostic indicator of schizophrenia and in this sense, the aim of this study is to examine the average sentence length of patients with schizophrenia and compare all the results with the control group by using four different language tests. By doing this, the differences in sentence processing in Schizophrenia is aimed to reveal.

## Methodology

### Subjects

Prior to data collection, in order to do research with the patients, the approval of the ethical committee of Dokuz Eylul University was obtained on 06.06.2013. A power analysis was conducted with regards to the number of the patients living in İzmir as 0.85 % of total population and the sample size of the study was determined. As a result, fifty patients with schizophrenia receiving treatment in Dokuz Eylul University, School of Medicine, Department of Psychiatry and diagnosed according to DSM-IV criteria and fifty healthy subjects matched for age, sex and education level with the patients, were included in the study. Table 1. shows the demographic information of the patients and healthy individuals.

Table 1. *Demographic Information of the Patients with Schizophrenia and Healthy Subjects*

	Schizophrenia (n=50)	HealthySubjects (n=50)	p-value
Age	41.98	41	p=0.60
Sex			
Women	17	17	p=1.0
Men	33	33	p=1.0
Education Level	10.9	11.21	p=0.94

### Procedure

Data collection was carried out at Dokuz Eylul University, Department of Psychiatry on Wednesdays between 2012 and 2014. Prior to testing, subjects were asked to sign a written consent form. Each subject was tested on one-to-one basis in the office of the psychologist room. In order not to distract patients' attention, the research room was always kept silent during the task. Subjects in the control group were also matched for age, sex and education level with patients and were tested in the same way. The speech of all subjects was recorded via Philips LFH0615 recorder and transcribed based on the symbols indicated by Du Bois et al.(1991).

### Task

The average sentence length of the patients with schizophrenia who received treatment at Dokuz Eylul University, Department of Psychiatry were evaluated in four stages: narrative picture task, story picture sequencing task, semi-structured speech and free speech tasks. For the narrative picture task, the Picnic Picture chosen from Western Aphasia test, was used. For story picture sequencing, the picture story about a man buying a hat was chosen from "VosstanovleniyeReçi u Bolnix s Afaziey" book, was used. Pictures for both tasks were chosen on the basis of their relevance for the Turkish culture. The subjects did not have any difficulties in interpreting the pictures. All tasks were administered to all the subjects in the same order. Anderson (1988) and Wicksell, et al. (2004) indicated that problems in short-term memory are the most apparent, suggesting

specific cognitive deficits and can cause a decrease in performance. In order to prevent these problems, subjects were allowed to look at the pictures during the test process. Following this task, they were first asked to talk about the recent situation of Turkey. They were then asked to talk about anything they have wanted. The interview lasted nearly 8-10 minutes and all the subjects' speech was recorded. The recordings were then transcribed using DuBois' Discourse Transcription Symbols. Finally, the average sentence length of the control group and patients with schizophrenia was compared statistically.

### *Data Analysis*

Data analysis was performed using Statistical Package for the Social Sciences (SPSS) version 16.0 for Windows. The independent-samples t-test was used to compare the means of sentence length between the subject and control groups. When the analysis have been completed, findings have been commented in consideration of relevant literature.

### **Results**

The comparisons of sentence length obtained in four language tests are presented in Table 2. Results suggest that there is a statistically significant difference between patients with schizophrenia and control group in narration, story picture sequencing, semi-structured speech and free speech.

*Table 2. Comparisons of sentence length on four language tests of patients with SCH and CG*

Task	Group	Number of Subjects	Average Sentence Length	Std. Deviation	Std. Error	t-test p-value
Narration Task	Patients with Schizophrenia	50	6.34	1.92	0.27	0.001
	Healthy Subjects	50	4.53	2.02	0.87	
Story Picture Sequencing Task	Patients with Schizophrenia	50	7.11	1.63	0.23	0.001
	Healthy Subjects	50	4.31	1.30	0.19	
Semi-Structured Task	Patients with Schizophrenia	50	9.49	5.15	0.73	0.001
	Healthy Subjects	50	5.60	2.76	0.39	
Free Speech Task	Patients with Schizophrenia	50	7.50	2.90	0.41	0.001
	Healthy Subjects	50	5.41	2.76	0.39	

The comparisons of sentence length obtained in four language tests are presented in Table 2. Results suggest that there is a statistically significant difference between patients with Schizophrenia and control group in all tests ( $p=0.001$ ). The average of sentence length shows that patients with schizophrenia have shorter sentences compared to the control group.

## Discussion

The results of this study show that patients with schizophrenia tend to form shorter sentences compared to the control group and the findings are similar to the other studies in the literature. Andreasen (1982) states that negative speech symptoms refer to a paucity of speech amount and speech content and disorganized speech symptoms refer to speech that is difficult to understand or is poorly organized. There are at least two ways of assessing and conceptualizing disorganized speech symptoms. While one way is thought in terms of communication impairment, (Docherty et al., 1996) another way is considered in terms of formal thought disorder, or the occurrence of specific types of speech symptoms (e.g., instances of derailment or of word approximations; Andreasen, 1979). Thomas (1996) also found that the speech of schizophrenic subjects contained more syntactically and semantically deviant sentences. The negative symptom group produced shorter sentences that contained lower levels of clausal embedding. Bagner et. al. (2003) examined the relation between comprehension and sentence length and found that language comprehension deficits increased among patients with schizophrenia as sentence length increased, but patients were not differentially impaired on object relative as compared to subject relative sentences. It is also found that speech deficits, notably those involved in psychomotor retardation, blunted affect, alogia and poverty of content of speech, are pronounced in a wide range of serious mental illnesses (e.g., schizophrenia, unipolar depression, bipolar disorders). Results suggest that certain speech deficits, notably involving pause length, may manifest as a function of cognitive resource limitations (Cohen et. al., 2014).

Jeffrey et. al. (2014) states that diminished communication has been reported in a subset of individuals with schizophrenia, and there is evidence that this involves separate channels of speech production (i.e., alogia) and speech variability (i.e., flattened vocal affect; Blanchard and Cohen, 2006). Diminished vocal prosody in schizophrenia also has been associated with basic neurocognitive abnormalities (Cohen et al., 2013) and poor social functioning (Cohen et al., 2012).

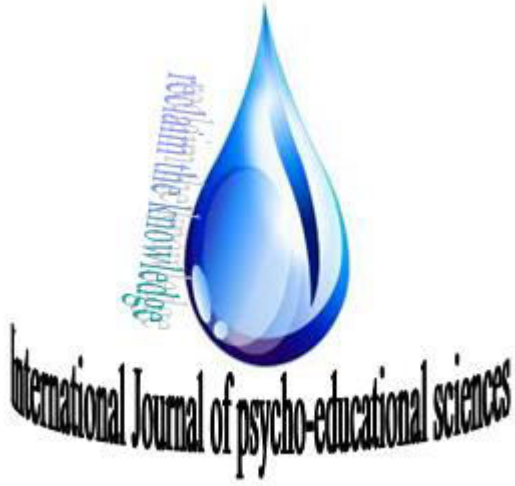
Heim & Cohen (1981) in the same way examined the patients with schizophrenia and They showed a steeper slope of utterance length across levels of difficulty. In the schizophrenic group, the degree of general psychopathology as well as paranoid and anergic tendencies correlated negatively with communication accuracy, utterance length, and the number of descriptions referring to both colors of an item in the simultaneous presentation condition. Özcan et. al. (2017) also found that in addition to diminished speech amount in terms of complex sentence structure patients with schizophrenia display abnormalities of language. Results showed that patients and controls differed in their production of a complex sentence, with patients exhibiting a significant reduction in their production, compared to the speech of the control group. This was particularly significant in adjectival and adverbial clauses. It is also observed that patients tended to produce fewer complex sentences and more simplex or coordinated sentences. As such, patients tended to make syntactic simplification. It is concluded that these result from an overall cognitive deficit, difficulty in concentrating, distraction, or a preference for expressing simpler ideas.

In conclusion in this study schizophrenia patients' speech was examined by using four different language tests and it was revealed that the patients tended to use shorter sentences more, compared the control group. It is believed that schizophrenia patients have different sentence processing due to the cognition problems.



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# **A comparison of Sentence Production of Turkish Patients with Early and Late-Onset Alzheimer's Disease**

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## Abstract

*Alzheimer's disease (AD) is a degenerative brain disease and the most common cause of dementia, accounts for an estimated 60 percent to 80 percent of cases. AD has two subtypes: Early-onset and Late-onset Alzheimer's disease. Both types are characterized by a decline in memory, problem-solving and other cognitive skills that affect a person's ability to perform everyday activities. Language is the other problem that is observed in these patients. The aim of this study is to examine the sentences production of patients with early and late onset Alzheimer's disease by using four different language tests and to compare all the results within groups and language tests. Our aim is to reveal the differences in sentence processing and language performance of Turkish Alzheimer patients. In order to reveal the sentence production of Turkish Alzheimer patients, 23 patients with early-onset Alzheimer's disease, 39 patients with late-onset Alzheimer's disease from Dokuz Eylul University, Faculty of Medicine, Department of Neurology and an age/education-matched control group are included in this study. The data were analyzed using t test and Mann-Whitney U test. For comparison of content and tests, Chi-square test was performed. It was found that patients with early-onset AD used more basic sentences in Picnic Picture description test, Cookie Theft Picture description test and the Story Picture Sequencing test compared to late-onset AD patients. In Random Speech test, patients with late-onset AD used more basic sentences. The other finding was about the nominal and the verbal sentences. It was revealed that patients with early-onset AD used more nominal sentences in all tests compared to late-onset patients. In terms of verbal sentences, it was found that patients with late-onset AD used more verbal sentences than the early-onset patients. Comparison about sentence production of AD patients within tests shows that the highest percent of basic sentence use of AD patients is in Picnic Picture test and the lowest percent is in Random Speech test. In conclusion, early-onset AD patients perform worse due to their cognitive deficits compared to late-onset patients. They tend to use basic and nominal sentences more.*

**Keywords:** Alzheimer, early-onset Alzheimer's Disease, late-onset Alzheimer's Disease, sentence production, nominal and verbal sentences

## Introduction

The term "dementia" describes a group of symptoms that can be caused by many diseases. These symptoms are mental confusion, memory loss, disorientation, intellectual impairment or similar problems. Alzheimer Disease (AD) is the most frequent cause of irreversible dementia in adults (Mace and Rabins, 2017: 6). There are some criteria applied for the diagnosis of the AD. The criteria were specified as: a decline in intellectual abilities (sufficient to interfere with social or occupational functions); memory impairment; and at least one of either impaired abstract thinking, impaired judgement, personality change or other disturbance of higher cortical function (e.g. aphasia, apraxia, agnosia or constructional difficulty) (Smith, Chenery and Murdoch., 1987: 50).

A progressive language decline in language abilities is a widely known clinical indication of AD and it is said to be as one of the earliest symptom of it. At the beginning, language deficits are not severe; however, these problems become severe during the later stages of AD (Emery, 2000: 146). Various linguistic fields such as phonology, syntax and semantics are affected in AD. When phonological abilities are considered, it can be seen that these abilities are not affected severely during mild and moderate stages of AD. Like phonological abilities, syntactic features of AD patients are often preserved in the early

stages and become severely affected in the later stages (Bayles and Kazniak, 1987: 121; Glosser et al., 1998: 33; Kemper et al., 1993: 83). The specific language problems observed in AD are word finding difficulties, decline in semantic and pragmatic levels, phonological and syntactic difficulties, writing disorders. These problems vary with the stages of the disease. In the early stages, language impairment involves lexical retrieval problems, loss of verbal fluency, and breakdown in comprehension of higher order written and spoken languages. In the moderate and severe stages of AD, the loss of verbal fluency is profound, with breakdown of comprehension and literal and semantic paraphrases prominent; in very severe AD, speech is often restricted to echolalia and verbal stereotypy (Ferris and Farlow, 2013: 1009).

AD has been divided into two categories with respect to age of first clinical symptoms: early-onset and late-onset. Early-onset, or symptoms beginning before the age of 60-65 years, represents 6-7 % of all cases. The vast majority of AD cases present as late-onset, at ages older than 60-65 years (Golden and Josephs, 2015: 8). Early-onset Alzheimer disease (EOAD), with onset in individuals younger than 65 years, although overshadowed by the more common late-onset AD (LOAD), differs significantly from LOAD. EOAD comprises approximately 5% of AD and is associated with delays in diagnosis, aggressive course, and age-related psychosocial need (Mendez, 2017: 264). The consequences of being diagnosed early with a disease that implies progressive decline of cognitive abilities and activities of daily living performance, as well as changes in personality and behavioral disturbances, are enormous (Bakker et al., 2013: 38). Early onset differs in the areas of the brain which are targeted, rather than only in the rate of progression. The early onset patients appear to be hit harder in attention-related areas of memory, while the late onset patients appear to have more damage in areas related to recall and recognition (Kensinger, 1996: 27).

A crucial difference between early and late onset patients was language dysfunction. Early onset was associated with more language deficits. Early onset patients had more cases of aphasia (the loss or impairment of ability to use or understand speech) than the late onset patients (Kensinger, 1996: 26). The language impairment of early and late-onset AD has been examined in various research studies. Several kinds of language functions were described as more severely deteriorated in early rather than late-onset patients. However; other studies reported more profound language dysfunctions in late-onset patients. Due to the result of one or more methodological factors including lack of statistical power caused by small sample size, inappropriate measures and the presence of uncontrolled variables, differences about language impairment between early and late-onset Alzheimer's Disease could not be described well (Immamura et al., 1998: 946).

The aim of this study is to investigate the sentence production of patients with early-onset and late-onset Alzheimer's disease by using four different language tests and to compare all the results with a control group and within tests. In this investigation, basic sentences which were produced by all groups were examined in order to reveal how many of them are nominal and verbal sentences.

## **Methods**

### *Participants*

In order to decide the sample size of the study, a power analysis was used. Considering the results of the analysis, 62 patients (23 EOAD / 39 LOAD) from Dokuz Eylül

University, Faculty of Medicine, Department of Neurology and an age/education-matched control group consisting of 26 normal people were included in the study. The ages of all the groups were similar (EOAD: 59.86/ EOAD: 78.5/ CG: 62.88). Education levels of all participants are similar (at least secondary level).

### *Procedures*

Before applying the language tests, a neurologist and a psychologist did a clinical interview, made a physical and neurological examination by using Mini-Mental State Examination (MMSE; Folstein et al., 1975), Auditory Verbal Learning Test (AVLT; Rey, 1964) Verbal Fluency Test (VFT) and Clinical Dementia Rating (CDR). In order to describe the linguistic performance of patients with EOAD and LOAD, four different language tests were used (Picnic Picture description test, Cookie Theft Picture description test, the Story Picture Sequencing test and Random Speech test). A pilot study was conducted to reveal the validity of these tests. The description abilities of the patients were evaluated with two Picture description tests: Picnic Picture (Western Aphasia Battery, Revised: Kertesz, 2007) and Cookie Theft (Boston Diagnostic Examination of Aphasia, Goodglass and Kaplan, 1983). These tests are chosen because it is stated that these tests are the most sensitive materials to assess the language performance of AD patients (Bayles et al., 1987). By using all these language tests the description and sequencing abilities as well as the spontaneous speech of EOAD and LOAD patients were aimed to be examined. Patients were interviewed for approximately 10 minutes each with four tests and all interviews were recorded with a tape recorder and transcribed based on the DuBois' Discourse Transcription Symbols (1993). After analyzing the sentence production of all the groups, just grammatically acceptable sentences were considered as the data (Grammatically Unacceptable Sentences; Subject Group: 9.56 % / Control Group: 8.11 %). In this study, only basic sentences were analyzed as nominal and verbal basic sentences and all the data were compared within the groups and the tests.

### *Statistical Analysis*

Statistical Package for the Social Sciences (SPSS) version 16.0 for Windows was used for the statistical analysis. Non-parametric analyses were performed as there was no equivalence in number, normal distribution, or homogeneity of variances (Qui-square and U-Mann–Whitney). There was a symmetrical distribution for the basic sentence structures related with the group comparisons, t test was performed.

## **Results**

The study sample consisted of 23 patients with EOAD, 39 patients with LOAD and 26 normal people. The characterization of the study sample and details of both subgroups can be seen in Table 1. Age, gender, education level and MMSE mean scores were considered as the variables for the study.

Table 1. *Comparisons of demographic and clinical variables in both groups: EOAD, LOAD and CG*

	EOAD (n=23)	LOAD(n=39)	CG (n=26)	p
Age	59.86	78.5	62.88	0.292

Education	5	8	15	0.309
Gender♀	10	23	14	0.469
MMSE	19	29	30	<0.005

\*EOAD: Early-onset Alzheimer's Disease/CG: Control Group

The comparisons of basic sentence structures obtained in four language tests are presented in table 2, 3 and 4. According to the results shown in table 2, patients with EOAD performed significantly poorly than the control group in Picnic Picture, Cookie Theft and Story Picture Sequencing tests. However, there is a statistically significant difference between patients with EOAD and the control group in Random Speech test ( $p=0.001$ ).

Table 2. *Comparisons of basic sentence structures on four language tests of EOAD and CG*

Language Tests	N	Group	Mean	Standart Deviation	p
Picnic Picture	26	CG	9.615	4.833	0.872
	23	EOAD	9.391	4.812	
Cookie Theft	26	CG	5.846	3.662	0.748
	23	EOAD	5.521	3.328	
Story Picture Sequencing	26	CG	5.615	4.233	0.314
	23	EOAD	6.956	4.986	
Random Speech	26	CG	2.653	1.547	0.001
	23	EOAD	5.304	3.036	

Results in table 3 suggest that patients with LOAD performed significantly poorly than the control group in Picnic Picture, Cookie Theft and Story Picture Sequencing tests. Although not reaching statistical significance, a high mean of the basic sentence structures was noticed. On the other hand, there is a statistically significant difference between patients with EOAD and control group in Random Speech test ( $p=0.003$ ).

Table 3. *Comparisons of basic sentence structures on four language tests of LOAD and CG*

Language Tests	N	Group	Mean	Standart Deviation	p
Picnic Picture	26	CG	9.615	4.833	0.514
	39	LOAD	10.871	8.915	
Cookie Theft	26	CG	5.846	3.662	0.192
	39	LOAD	6.666	4.618	
Story Picture Sequencing	26	CG	5.615	4.233	0.192
	39	LOAD	7.512	6.462	
Random Speech	26	CG	2.653	1.547	0.003
	39	LOAD	5.179	3.992	

As seen in table 4, there is no statistically significant difference between patients with EOAD and LOAD. However, when the mean of the sentences are considered, it is revealed that the patients with LOAD performed much better compared to the patients with EOAD in Picnic Picture, Cookie Theft and Story Picture Sequencing tests.

Table 4. *Comparisons of basic sentence structures on four language tests of EOAD and LOAD*



Language Tests	N	Group	Mean	Standart Deviation	p
Picnic Picture	23	EOAD	9.391	4.812	0.476
	39	LOAD	10.871	8.915	
Cookie Theft	23	EOAD	5.521	3.328	0.303
	39	LOAD	6.666	4.618	
Story Picture Sequencing	23	EOAD	6.956	4.986	0.724
	39	LOAD	7.512	6.462	
Random Speech	23	EOAD	5.304	1.547	0.897
	39	LOAD	5.179	3.036	

The comparisons of nominal sentence structures obtained in four language tests are presented in table 5, 6 and 7. It was found that there was a statistically significant difference about the nominal sentence structures between the EOAD and control groups in Picnic Picture, Cookie Theft and Story Picture Sequencing tests ( $p=0.001$ ,  $p=0.020$ ,  $p=0.003$ ). However, there was no difference in Random Speech test within the groups.

Table 5. *Comparisons of nominal sentence structures on four language tests of EOAD and CG*

Language Tests	N	Group	p
Picnic Picture	26	CG	0.001
	23	EOAD	
Cookie Theft	26	CG	0.020
	23	EOAD	
Story Picture Sequencing	26	CG	0.003
	23	EOAD	
Random Speech	26	CG	0.142
	23	EOAD	

The results in table 6 revealed that there was a statistically significant difference about the nominal sentence structures between the LOAD and control groups in Picnic Picture, Cookie Theft and Story Picture Sequencing tests ( $p=0.001$ ,  $p=0.015$ ,  $p=0.000$ ). There was no difference in Random Speech test within the groups.

Table 6. *Comparisons of nominal sentence structures on four language tests of LOAD and CG*

Language Tests	N	Group	p
Picnic Picture	26	CG	0.002
	39	LOAD	
Cookie Theft	26	CG	0.015
	39	LOAD	
Story Picture Sequencing	26	CG	0.000
	39	LOAD	
Random Speech	26	CG	0.432
	39	LOAD	

Results in table 7 suggest that there is no statistically significant difference between patients with EOAD and LOAD related with the nominal sentence production. The number of the nominal sentences produced by the EOAD patients is more than the LOAD patients. However, this difference is not statistically significant.

Table 7. Comparisons of nominal sentence structures on four language tests of EOAD and LOAD

Language Tests	N	Group	p
Picnic Picture	23	EOAD	0.596
	39	LOAD	
Cookie Theft	23	EOAD	0.837
	39	LOAD	
Story Picture Sequencing	23	EOAD	0.717
	39	LOAD	
Random Speech	23	EOAD	0.421
	39	LOAD	

The comparisons of verbal sentence structures obtained in four language tests are presented in table 8, 9 and 10. It was revealed that there was a statistically significant difference about the verbal sentence structures between the EOAD and control groups in all tests. In all tests, patients with EOAD produced less verbal sentences compared to the control group.

Table 8. *Comparisons of verbal sentence structures on four language tests of EOAD and CG*

Language Tests	N	Group	p-değeri
Picnic Picture	26	CG	0.037
	23	EOAD	
Cookie Theft	26	CG	0.019
	23	EOAD	
Story Picture Sequencing	26	CG	0.009
	23	EOAD	
Random Speech	26	CG	0.002
	23	EOAD	

Results in table 9 suggest that there was a statistically significant difference about the verbal sentence structures between the LOAD and control groups in all tests and it is also revealed that the LOAD group produced less verbal sentences compared to the control group.

Table 9. *Comparisons of verbal sentence structures on four language tests of LOAD and CG*

Language Tests	N	Group	p-değeri
Picnic Picture	26	CG	0.003
	39	LOAD	
Cookie Theft	26	CG	0.004
	39	LOAD	
Story Picture Sequencing	26	CG	0.040
	39	LOAD	
Random Speech	26	CG	0.009
	39	LOAD	

According to the results in table 10, there is no statistically significant difference between patients with EOAD and LOAD related with the verbal sentence production. However, the mean of the verbal sentence production is higher in LOAD group compared to the EOAD group.

Table 10. *Comparisons of verbal sentence structures on four language tests of EOAD and LOAD*

Language Tests	N	Group	p-değeri
Picnic Picture	23	EOAD	0.517
	39	LOAD	
Cookie Theft	23	EOAD	0.971
	39	LOAD	
Story Picture Sequencing	23	EOAD	0.744
	39	LOAD	
Random Speech	23	EOAD	0.820
	39	LOAD	

Table 11 shows the comparison of language tests based on basic sentence structures within groups. According to the table, there was a significant positive correlation between language tests and basic sentence structures ( $p=0.000$ ). It means that the use of basic sentence structures of EOAD patients, LOAD patients and the control group were changed within tests. The highest percent of basic sentence use of EOAD patients and the control group is in Picnic Picture test and the lowest percent is in Random Speech test.

Table 11. *Comparison of language tests based on basic sentence structures within groups*

Groups	Picnic Picture f (%)	Cookie Theft f (%)	Story Picture Sequencing f (%)	Random Speech f (%)	p
CG	40.5	24.6	23.7	11.2	0.000
EOAD	34.6	20.3	25.6	19.5	0.001
LOAD	36	22.1	24.9	17.1	0.000

## Discussion

The sentence production of AD patients shows that these patients use more basic sentence structures than the control group. Although not reaching statistical significance, it is clear that patients with EOAD and LOAD tend to use basic sentences in their speeches. Another finding is that EOAD patients use more basic sentences compared to LOAD patients. These findings are parallel to the studies in the literature. In these studies the sentence structures of AD patients were examined and it was revealed that they used less complex sentence structures compared to the control group (Hier et al., 1985, Croisile et al. 1996, Waters and Caplan, 1997, 1999, 2001).

The syntactic abilities of AD patients are observed in many studies and in these studies it is mainly accepted that the syntactic abilities of AD patients are preserved. However, the stages of AD are determinant of the language impairment and the impairment is just observed in the complex sentence structures (Caramelli et al., 1998; Emery, 2000; Boschi, 2017: 13). The performance of AD patients becomes worse when the complex sentence structures occur more frequently (Caplan and Waters, 1999). Related with the stages of AD, Kertesz (2004) found out that in the early stages of AD, these properties were preserved; however; in the severe stages language impairment became worse and the patients had lots of problems about sentence production. A similar finding was seen in the

study of Ehrlich et al., (1997). According to this study, the syntactic ability about the complex sentence structures are not preserved in moderate and severe AD patients.

The studies that compare patients with early and late-onset Alzheimer's disease indicate that the linguistic difference between the EOAD and LOAD patients are not clear and it is mainly about the small sample sizes and nonstandardized testing (Seines et al., 1988; Swearer et al., 1992). Except for these studies, there are also some other studies that show the difference between the linguistic performance of the patients with early and late-onset AD. Some of these studies claim that patients with LOAD perform worse compared to the patients with EOAD (Sevush et al., 1993; Bayles, 1991, 1992, 1993). On the contrary, the other studies prove that language impairment of the patients with early-late onset AD is faster and worse compared to the late-onset AD patients (Romero and Kurz, 1996; Seltzer and Sherwin, 1983; Sevush et al., 1993: 6; Binetti et al., 1993; Goldblum et al., 1994; Becker et al., 1988; Chui et al., 1985; Filley et al., 1986). In addition to these studies, some studies reveal not only similarities but also differences between early and late-onset AD considering their linguistic performance. For example, Koss (1996) found out that naming, repetition and some other linguistic performance of the early and late-onset AD patients were similar. However, in some aspects there were also some differences within the groups.

Except for the basic sentences, nominal and verbal sentence structures were also analysed within tests and groups in our study. According to the results, the number of nominal and verbal sentences used by the EOAD and LOAD patients differs from the control group. EOAD patients prefer nominal sentences more compared to the control group whereas LOAD patients prefer verbal sentences more. In literature, nominal and verbal sentence structures are not investigated a lot. In some studies, it is revealed that EOAD patients tend to use nominal sentences more compared to the verbal ones (Can et al., 2016); however patients with LOAD use verbal sentences more compared to the normal people (Can et al., 2017). In other studies, only verb and noun production is analysed and it is indicated that verb production deficits in AD seemed to be driven more by semantic than by executive impairment. They suggest that picture naming is a task predominantly dependent on temporal or posterior brain areas, whereas verbal fluency is more dependent on frontal or frontal subcortical brain areas. Even though patients with AD have no frontal brain atrophy, they do experience difficulty in naming and fluency tasks involving verbs (Beber et al., 2015).

Considering the sentence production of EOAD and LOAD patients in our study, it was found out that EOAD patients used more basic sentences; LOAD patients used more verbal sentences in their speech. It is believed that this difference is related to working memory problems due to the deficits in neural interconnections between the posterior and frontal brain areas. These problems can also cause difficulties in sentence comprehension and sentence production (Altmann and McClung, 2008). Some studies related to sentence processing indicate a left-temporal network for syntactic processing and bilateral temporo-frontal networks for semantic processing (Lukic et al., 2013).

To conclude, in this study the sentence production of EOAD and LOAD patients were examined through four different language tests and it was revealed that EOAD patients tended to use basic sentences and nominal sentences more frequently compared to LOAD patients. It is believed that the difference about the sentence processing of the two subtypes of AD is related with the working memory problems.

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# **Academic overload, self-efficacy and perceived social support as predictors of academic adjustment among first year university students**

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## Abstract

*The purpose of this study was two- folds: to investigate whether there are correlation between and among academic overload, self-efficacy and perceived social support as predictors of academic adjustment among first year university students .And to investigate the relative contribution of among academic overload, self-efficacy and perceived social support to academic adjustment among first year university students. The study employed the descriptive survey method to describe academic overload, self-efficacy and perceived social support as predictors of academic adjustment among first year university students. The sample of the study comprised of 178( 120 females. 58 males ,Mean age= 18.2 years , SD = .82) students attending Faculty of Specific Education in Cairo University for the academic year 2017/2018 . The study utilized questionnaires and instruments to measure psychosocial variables such as Academic overload, self-efficacy ,perceived social support, and academic adjustment. The correlation coefficient results revealed significant negative relationship between academic adjustment and Academic overload( $r = -.333$ ) , while the correlation coefficients were positive for self-efficacy( $r = .404$ ) and perceived social support( $r = .391$ ). Multiple regression was performed where relative contribution of the independent variables to the prediction were observed. Findings were discussed and implication of findings was included.*

**Keywords.** Academic overload, self-efficacy , perceived social support, academic adjustment, university students

## Introduction

It seems that first year is the most critical for college adaptation because of the big numbers of possible adjustment difficulties it can generate, that is , students face several challenges, including developing a new social network, keeping up with academic work in an environment of much greater autonomy, and negotiating the temptations of a college environment (Chong et al., 2009). As Baker and Siryk (1989) put it, academic adjustment refers to motivation for learning, taking actions in order to comply with academic demands, sense of purposefulness and general satisfaction with the academic environment. On the other hand , other researchers (e.g. Russell and Petrie,1992) cited some factors that affect student's academic adjustment : aptitude, ability, study skills, test anxiety, academic motivation, self-efficacy, and attribution . The present study concentrates on the influence a number of psychosocial variables might have towards student adjustment to university, definitely academic overload, self-efficacy and perceived social support.

### *Academic overload*

Academic overload may be regarded as student' feelings of being overwhelmed by their academic requirements or responsibilities while pursuing a degree at university. Many students experience difficulty in managing the academic workload at university (Bitzer &

Troskie-De Bruin, 2004). Students' perceptions of the demands of the academic tasks and their perceptions of their ability to succeed in completing the tasks influence the amount of effort they put into academic work, and an insufficient amount of effort may lead to academic failure (Il-haam, Johann & Kitty, 2011). Chambel & Curral (2005) found that students' inability to manage academic workload had a negative impact on academic adjustment to university and academic performance. Il-haam et al. (2009) explored the pathways taken by adjustment and other psychosocial variables (help-seeking, academic motivation, self-esteem, perceived stress, and perceived academic overload), in relation to the success of economically and educationally disadvantaged students at university. Participants were 194 first-year students on need-based financial aid at a South African university; they completed questionnaires that measured these psychosocial variables, and their final first-year academic results were obtained via the university's records office. Path analyses showed that adjustment did not function as a pure mediator on academic performance as the dependent variable. Furthermore, the psychosocial factors explained much (59%) of the variance in the students' adjustment and 20% of the variance in their academic performance. Hence, the psychosocial variables better explained the students' adjustment to university than academic performance.

Based on these findings the present study hypothesised that Academic overload is negatively related to academic adjustment.

### *Self-efficacy*

Self-efficacy refers to the beliefs about one's capabilities to learn or perform behaviors at designated levels (Bandura, 1997). In a study trying to investigate the achievement motivation and self-efficacy in relation to adjustment among university students Habibah, Nooreen and Rahil (2010) found that achievement motivation and self-efficacy range from moderate ( $M = 3.17$ ,  $SD = 0.43$ ) to high levels ( $M = 5.15$ ,  $SD = 0.78$ ) indicating that they have the potentials to succeed. The three variables namely adjustment, achievement motivation and self-efficacy were found to be correlated positively with one another. A meta-analysis by Crede and Niehorster (2012) further supported the influence self-efficacy had on adjustment, as they found that self-efficacy had the strongest positive relationship with academic adjustment to university ( $r = .42$ ,  $n = 988$ ,  $k = 5$ ).

Based on these findings the present study hypothesised that self-efficacy is positively related to academic adjustment.

### *perceived social support*

Demaray (2005) defined 'social support' as "transpiring from multiple sources (parents, teachers, close friends, classmates, and school) and consisting of multiple types (emotional, informational, appraisal, and instrumental), which may serve to improve a student's adjustment and outcomes (p. 691)".

Previous research with undergraduate students has also shown that social support is related to and predictive of adjustment (Friedlander, Reid, Shupak, & Cribbie, 2007; Hertel, 2002; Hinderlie & Kenny, 2002; Lidy & Kahn, 2006). Results actually suggest that perceived social support may be a better predictor for students' adjustment.

Hazalizah and Marhamah (2015) examined the role of social support and adjustment in predicting academic stress among first year students in Syiah Kuala University (UNSYIAH). A total of 364 respondents, aged between 16 and 21, completed the Indonesian version of Multi Dimensional Scale of Perceived Social Support (MSPSS), Students Adaptation to College Questionnaire (SACQ), and Student Life Stress Inventory



(SLSI). Respondents reported moderate levels of social adjustment, personal-emotional adjustment and academic stress and low level of social and the other two subscales of adjustment. Multiple Regressions revealed that two aspects of social support and one aspect of adjustment significantly predicted academic stress.

Previous research with undergraduate students has also shown that social support is related to and predictive of adjustment (Friedlander, Reid, Shupak, & Cribbie, 2007; Hertel, 2002; Hinderlie & Kenny, 2002; Lidy & Kahn, 2006).

Based on these findings the present study hypothesised that perceived social support is positively related to academic adjustment.

### Research Questions

The following two research questions were posed and investigated in the study:

- Are there correlation between and among academic overload, self-efficacy and perceived social support as predictors of academic adjustment among first year university students ?
- What is the relative contribution of academic overload, self-efficacy and perceived social support to academic adjustment among first year university students?

### Materials and Methods

The study employed the descriptive survey method to describe academic overload, self-efficacy and perceived social support as predictors of academic adjustment among first year university students.

**Sample:** The sample of the study comprised of 178( 120 females. 58 males ,Mean age= 18.2 years , SD = .82) students attending Faculty of Specific Education in Cairo University for the academic year 2017/2018 .

**Measures :**The study utilized questionnaires and instruments to measure psychosocial variables such as Academic overload, self-efficacy , perceived social support, and academic adjustment.

1- *Academic Overload Questionnaire (AOQ)* (Mitra and Sengupta ,2005). It was developed to measure the academic burden which is beyond the individual's means to satisfy. Thus feeling of burden surfaces due to various other curricular and co-curricular activities, school homework coupled with regular class tests. The questionnaire has 33 items and tests academic overload of adolescents within the age 14-18 years of both the sexes. It has five dimensions measuring the overload due to personal, familial, teacher, peer group and societal aspects. The test-re-test reliability of the questionnaire was found out to be 0.85, The validity of the questionnaire found out by finding the inter-item consistency which proved to significant at the 0.01 level for all items.

2- *Self-Efficacy for Learning Form (SELF)* (Zimmerman & Kitsantas, 2007). It was developed to assess students' Self-Efficacy for Learning. The first scale consisted of 57 items. Then, the items in the study were abridged to 18 items. The students responded to each item using a scale ranged from 0 to 100 points (0=definitely cannot do it, 30=probably cannot do it, 50=maybe, 70=probably can do it, 100= definitely can do it). The test-re-test reliability of the questionnaire was found out to be 0.83, The validity of the questionnaire found out by finding the inter-item consistency which proved to significant at the 0.01 level for all items.

3- *Perceived Social Support Scale* .The Perceived Social Support from Friends and Family Scale (PSS-Fr and PSS-Fa; Procidano & Heller, 1983) is a 40-item scale (20 items about

friends, and 20 items about family) that assesses how individuals perceive support, information and feedback from their friends and family (Procidano and Heller, 1983, p. 2). Each item asks the individual to circle a "yes", "I don't know" or "No" response. The PSS (Fr) and PSS (Fa) have a good internal consistency with  $\alpha=.90$ .

4- *Student Adaptation to College Questionnaire (SACQ)* (Baker and Sirk (1989). A psycho-metrically tested instrument used in many universities and colleges to measure how well students adjust to college experience. The questionnaire has academic adjustment and social adjustment subscales. Each scale comprised 25 items, each rated on a 4-point Likert-type scale, with higher scores reflecting academic/social adjustment. Both scales required respondents to rate their level of agreement or disagreement, indicating "very true", or "somehow true", or "not true", or "not true at all". The academic adjustment sub scale was adopted in this study. For reliability the alpha coefficients are .90

**Procedure** .The participants were informed by the researcher regarding the purpose of the study. The instruments were distributed and participants were asked to fill in them.

**Data Analysis** .After checking the retrieved questionnaires to determine their suitability for analysis, and discarding those with missing information, the data were collated and analyzed using IBM SPSS Statistics 20. Computations for descriptive statistics, correlations, and regression were done.

## Results

### Correlation analysis

Prior to carrying out the regression analysis it was first necessary to conduct bivariate correlation analysis to ascertain the relationships between the independent variables and the dependent variable.

The correlation coefficient results revealed significant negative relationship between academic adjustment and Academic overload( $r = -.333$ ), while the correlation coefficients were positive for self-efficacy( $r = .404$ ) and perceived social support( $r = .391$ ).

Table 1. Pearson correlation coefficients between academic adjustment and the prediction variables

Variable	Academic overload	self-efficacy	perceived social support
academic adjustment	-.333*	.404**	.391**

### Regression analysis

Multiple regression was performed to investigate the ability of Academic overload self-efficacy perceived social support to predict academic adjustment. As shown in Table 2, the results indicated that the following beta weights which represented the relative contribution of the independent variables to the prediction were observed. Academic overload ( $\beta = .02$ ,  $t = -4.08$ ), self-efficacy ( $\beta = .24$ ,  $t = 2.85$ ), perceived social support ( $\beta = .23$ ,  $t = 2.61$ ).

Table 2. Results of multiple regression for prediction of academic adjustment

Variables	Unstandardised Coefficients		Standardised coefficients		Sig.
	B	Std. error	Beta	t	

(Constant)	-3.41	3.12		-.11	.23
Academic overload	-.33	-.10	.02	-4.08	.05
self-efficacy	1.56	.60	.24	2.85	.00
perceived social support	1.42	.86	.23	2.61	.01

## Discussion

The purpose of this study was two- folds: to investigate whether there are correlation between and among academic overload, self-efficacy and perceived social support as predictors of academic adjustment among first year university students .And to investigate the relative contribution of academic overload, self-efficacy and perceived social support to academic adjustment among first year university students. Table 1. revealed significant negative relationship between academic adjustment and academic overload( $r = -.333$ ),while the correlation coefficients were positive for self-efficacy( $r = .404$ ) and perceived social support( $r = .391$ ). As shown in Table 2, the results indicated that the following beta weights which represented the relative contribution of the independent variables to the prediction were observed. Academic overload ( $beta = .02$ ,  $t = -4.08$ ), self-efficacy ( $beta = .24$ ,  $t = 2.85$ ), perceived social support ( $beta = .23$ ,  $t = 2.61$ ).

The results of the present study indicated that academic overload leads to lower academic adjustment among first year university students. This means that students who feel overwhelmed by their daily academic requirements and responsibilities will have lower academic adjustment. This result is in accordance with previous research by Bitzer and Troskie-De Bruin (2004), Chambel and Curral (2005) and Petersen et al. (2009). First-year college students, may well underestimate the amount of time they require for independent learning, reading, course preparation and working on assignments; and/or also overestimate their academic abilities and skills. Accordingly, they may be feeling overloaded by the constant academic tasks and responsibilities.

The results of the present study show that higher levels of self-efficacy lead to better academic adjustment of first-year college students. This means that students who feel confident about their skills, who are confident about their academic and learning capabilities and who have a positive attitude or perception towards their abilities will perform better academically and adapt to the academic demands of the university . This result is in accordance with previous research which has also indicated a positive relationship between self-efficacy and academic adjustment (Safaa M. A. Yadak, 2017). The more time students allocate towards studying, the higher their level of self-efficacy and the better their academic adjustment.

The present study also found relationship between perceived social support from friends or family members and students' academic adjustment. This finding was in line with research conducted by many researchers in the field (e.g. Hertel, 2002; Hinderlie & Kenny, 2002; Lidy & Kahn, 2006).

## Implication of Findings

A number of implications have emerged from the results of the present study. First, students who feel overwhelmed by their daily academic requirements and responsibilities will have lower academic adjustment, hence, they are in need to be free from feeling overwhelmed by their daily academic requirements and responsibilities in order to feel academically adapted to university demands . When this happens , there should be social

support from friends or family members. This may have a buffering effect on the academic overload. Similarly, improving students' self-efficacy via vicarious experience, verbal persuasion, active domain and anxiety management, may have a positive effect on their academic adjustment.

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# **Investigating the Effect of Multisensory Approach on Improving Emergent Literacy Skills in Children with Autism Disorder**

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## Abstract

*Multisensory instructional approach leads to increased engagement, improved attitudes towards learning, improved information processing, and improved retrieval of learned information. The purpose of the present study was to examine the extent to which multisensory approach can be used to improve emergent literacy skills in children with autism disorder. 10 children between the aged seven ,who attended a centre in Nasr City for children with autism participated in this study . To collect and analyse data a Code-related Skills Test which had two parts ; Book concepts (recognition of book cover, title, author, number of pages: 4 marks , one for each) , and Letter knowledge( which had 14 letter to be recognized by the child)was developed. Findings from this study indicated the effect of multisensory approach on improving emergent literacy skills in children with autism disorder.*

**Keywords.** Multisensory Approach , Emergent Literacy Skills, Autism Disorder

## Introduction

Autism spectrum disorder is marked deficits in nonverbal communicative behaviors used for social interaction, ranging, for example, from poorly integrated verbal and nonverbal communication; to abnormalities in eye contact and body language or deficits in understanding and use of gestures: to a total lack of facial expressions and nonverbal communication (Adel Abdulla, M.&Mourad, A. Eissa ,2014). It affects approximately 1 in 68 children (Centers for Disease Control and Prevention, 2014). Children with Autism Spectrum Disorder (ASD) are regarded as being to be at risk of reading difficulties (Nation, Clarke, Wright, & Williams, 2006).The majority of them show difficulties with oral language skills (Williams, Botting, & Boucher, 2008).

Studies (Davidson & Ellis Weismer, 2014; Dynia, Lawton, Logan, & Justice, 2014) show that children with ASD had significantly higher alphabet knowledge and significantly lower print-concept knowledge when controlling for language ability compared with their peers. Westerveld, Trembath, Shellshear, et al., (2015) found that the majority of children with Autism Spectrum Disorder (ASD) showed relative strengths in code-related skills (e.g., letter identification tasks, independent page turning) and relative weaknesses in the more holistic meaning-related skills (e.g., comprehension measures such as print functions or pretend reading).

Preston (1998) states that multisensory methods to teaching reading are definitely based on one main idea that many children learn best when their teachers present their lessons through different modalities. Thorpe and Borden (1985),in support to this notion, emphasize that some of the main benefits of multisensory instructional approach for children to learn reading are as follow: increased engagement, improved attitudes towards learning, improved information processing, and improved retrieval of learned information.

The results of the benefits of using multisensory instruction were contradicting. For example , in an attempt to investigate whether multisensory instruction would affect a kindergarten student's ability to identify letters, Susan Ose(2016) used audio-visual instruction on upper and lower-case letter identification for one group , while group two received multisensory instruction. Pretest/posttest design to compare data was employed. The null hypothesis was supported because there was no statistically significant difference in letter identification between the audio-visual group and the multisensory group.

Amr Moustafa and Mohd Zuri Ghani(2016) examined the effectiveness of multi sensory approach in improving the knowledge on English Letter sound correspondence among mild disabled students in the state of Kuwait. 20 respondents were involved. A pretest-posttest method was employed. The findings showed the effect of the multi sensory approach in the teaching process of identifying the English letters and its sounds, which at the same time pave a way for the students to apply the mentioned skills in their learning process to read.

The purpose of the present study was to examine the extent to which multisensory approach can be used to improve emergent literacy skills in children with autism disorder. The primary research question was, what effects will multisensory approach have on emergent literacy skills in children with autism disorder?

## **Method**

### *Participants*

10 children between the aged seven ,who attended a centre in Nasr City for children with autism participated in this study .All children attended the same classroom within the centre. Parental informed consent forms were sent home by the centre psychologist to parents of potential participants telling them about the study and requesting them to give permission for their children to participate. Through a previous comprehensive psychological evaluation each targeted child had received a primary diagnosis of Autistic Disorder. All children were also capable of communication using speech assessed through a combination of teacher report and observation.

Each child also had the following characteristics: (a) meet the full criteria for autism according to The Scale for Screening Autism Disorder(Mohammed, 2003) (b) able to read and comprehend words, and (c) ability to follow directions.

### *Instrument*

As there are no well-validated norm-referenced tests for measuring emergent literacy skills in young children with autism, the researchers developed a *Code-related Skills Test* which had two parts ; Book concepts (recognition of book cover, title, author, number of pages: 4 marks , one for each) , and Letter knowledge( which had 14 letter to be recognized by the child). The Cronbach alpha value was high (0.85) indicating excellent internal consistency.

### *Procedure*

*Screening* . 10 children between the aged seven ,who attended a centre for children with autism participated in this study. Each child also had the following characteristics: (a) meet the full criteria for autism according to The Scale for Screening Autism Disorder(Mohammed, 2003) (b) able to read and comprehend words, and (c) ability to follow directions.

*General Instructional Procedures:* Instruction was delivered to children through a multi sensory approach activities which consists of visual, tactile, kinaesthetic and auditory drills . In Visual activities, the researcher show the card with the letter to the children and will say the letter for example : the sound of this letter is /aaaaaaa/ teacher will ask and the children repeat when he shown the card of letter A. In Auditory activities, the child say the sound of the letter when the researcher show him a flashcard with the letter / or a book . In Kinaesthetic activities, children draw the letter in the air when the researcher

says the sound, using their fingers to paint the letter. In Tactile activities, in sand , children draw the letters and say their sounds.

### *Design and Analysis*

The effects of implementing multisensory approach on emergent literacy skills in children with autism disorder were assessed using pre- post testing.

## **Results**

### *Multisensory approach and emergent literacy skills*

The first objective of the study was to determine if use of Multisensory approach would be more effective for the treatment group compared to the control group . For this purpose, the post intervention scores of both treatment and control groups were analysed . Table 1. shows Z Value result for the differences in post- test mean rank scores between experimental and control groups in emergent literacy skills. The table shows that (Z) value was(-2.334).  $\alpha = 0.01$  in the favor of experimental group .

Table 1. *Z Values results for the differences in post- test mean rank scores between experimental and control groups in emergent literacy skills*

Variables	Groups	N	Mean Ranks	Sum Ranks	Mann-whiteny	Z Value	Sig
emergent literacy skills	Ex	5	8	40	Zero	-2.334	0.01
	Cont.	5	3	15			

The second objective of the study was to determine the effect of Multisensory approach on emergent literacy skills in children with autism. The treatment consisted of emergent literacy skills training through use of Multisensory approach . The children's performance on emergent literacy skills was measured pre and post intervention. Table 2. shows Z Value result for the differences in pre and post test mean rank scores for the experimental group in emergent literacy skills Test. The table shows that (Z) value was(-2.253).  $\alpha = 0.01$ . This indicates that use of Multisensory approach had a positive effect on emergent literacy skills in children with autism.

Table 2. *Z Values results for the comparison of mean rank scores of experimental group at pre- and post intervention in emergent literacy skills*

Variables	Negative Ranks		Positive Ranks		Z Value	Sig.
	Mean	Sum	Mean	Sum		
emergent literacy skills	3	15	Zero	Zero	-2.253	0.01

## **Discussion**

The present study aimed to examine the extent to which multisensory approach can be used to improve emergent literacy skills in children with autism disorder. The primary

research question was, what effects will multisensory approach have on emergent literacy skills in children with autism disorder?

The findings from this study provide important preliminary insights into the emergent literacy skills of children with ASD, and these can be improved using multisensory approach. Though Davidson & Ellis Weismer (2014) reported that print-concept knowledge (e.g., reading from left to right, knowing about the title and the author of the book etc.) was an area of particular difficulty for children with ASD, children in this study showed improvement after being delivered the instruction through multisensory approach which depended on Visual activities, Auditory activities, Kinaesthetic activities and Tactile activities.

### **Limitations and Suggestions for Future Research**

There are some limitations for this study ,One of them was the limited number of children . Hence, further research with larger and more demographically diverse populations with random selection would strengthen the findings of the study.

Further research is needed given that multisensory processing are foundational to the higher-level cognitive, communicative, and social functioning that treatments aim to address, knowledge of an individual's ability to process sensory information is a critical and necessary first step to benefit maximally from intensive intervention.

Despite these limitations, the present study contributes useful knowledge about the influence of multisensory approach on ASD children's emergent literacy skills.

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# **The Relationship between Adaptive / Maladaptive Cognitive Emotion Regulation Strategies and Cognitive Test Anxiety among University Students**

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## Abstract

*The purpose of this study was to investigate the role of adaptive / maladaptive cognitive emotion regulation strategies in the prediction of cognitive test anxiety among university students . The study employed the descriptive survey method. The sample of the study comprised of 150( 130 females. 20 males ,Mean age= 19.8 years , SD = .89) fourth year undergraduate students attending Faculty of Specific Education in Cairo University for the academic year 2017/2018 . The study utilized questionnaires and instruments to measure psychosocial adaptive / maladaptive cognitive emotion regulation strategies, and cognitive test anxiety. The correlation coefficient results revealed significant positive relationship between cognitive test anxiety and self-blame ( $r = .532$ ) , blaming others ( $r = .281$ ) , rumination ( $r = .412$ ) and catastrophizing ( $r = .565$ ) while the correlation coefficients were negative for acceptance ( $r = -.387$ ) , refocus on planning ( $r = -.356$ ), positive refocusing( $r = -.323$ ), positive reappraisal ( $r = -.344$ ), and putting into perspective( $r = -.289$ ). Multiple regression was performed where relative contribution of the independent variables to the prediction were observed. Findings were discussed and conclusion was included.*

**Keywords.** Adaptive / Maladaptive Cognitive Emotion Regulation Strategies, Cognitive Test Anxiety ,University Students

## Introduction

Test anxiety is a psychological condition in which students experience extreme distress and anxiety in test situations. A such ,it can be regarded as the most important problem that students in all stages of the educational ladder face in their learning all over the world. Test anxiety is a two-factor construct, consisting of the cognitive (often referred to as “worry”) and emotional (or affective) components(Jerrell & Ronald, 2001). Test anxiety is defined as a “set of phenomenological, psychological, and behavioral responses that accompany concern about possible negative consequences or failure of an exam or similar evaluation situations” (Zeidner, 2007).

Those with test anxiety may have difficulty in concentrating in test settings and they are easily distracted and may have difficulty in recalling of information as a result of exhausted cognition. There are some physiological symptoms of test anxiety . This may be due to activation of the autonomic system . The physiological symptoms of test anxiety may include perspiration, headache, tachycardia and ,in advanced cases, severe gastrointestinal disturbances . However ,human beings have the ability to deliberately alter their emotional experience; that is, they have the ability to self-regulate their emotional states (Tice & Bratslavsky, 2000).

Cognitive emotion regulation has a key role in normal and abnormal processes and it is efficient against negative stimuli and unpleasant emotional experiences (Duarte, Ana Catarina, Matos, Ana Paula, & Marques, Cristiana,2015).). Nine cognitive coping approaches can be evaluated by The CERQ : (1) self-blame; (2) blaming others; (3) acceptance; (4) refocus on planning (refers to the required steps that need to be taken to deal with the situation); (5) positive refocusing (focus on positive experiences); (6) rumination; (7) positive reappraisal (attributing some kinds of positive importance to the

event); (8) putting into perspective (lowering the significance of the event); and (9) catastrophizing.

There is a paucity of that investigated the role of adaptive / maladaptive cognitive emotion regulation strategies on test anxiety among students. so, the purpose of this study is to investigate the role of adaptive / maladaptive cognitive emotion regulation strategies in the prediction of cognitive test anxiety among university students.

## **Research Questions and Hypotheses of the Present Study**

The following two research questions were posed and investigated in the study:

- Are there correlation between adaptive / maladaptive cognitive emotion regulation strategies and cognitive test anxiety among university students ?

What is the relative contribution of adaptive / maladaptive cognitive emotion regulation strategies to cognitive test anxiety among university students?

The following hypotheses were tested:

H1: there correlation between adaptive / maladaptive cognitive emotion regulation strategies and cognitive test anxiety among university students

H2: Adaptive / maladaptive cognitive emotion regulation strategies have a relative contribution to cognitive test anxiety among university students.

## **Materials and Methods**

The study employed the descriptive survey method to describe academic overload, self-efficacy and perceived social support as predictors of academic adjustment among first year university students.

**Sample:** The sample of the study comprised of 150( 130 females. 20 males ,Mean age= 19.8 years , SD = .89) fourth year undergraduate students attending Faculty of Specific Education in Cairo University for the academic year 2017/2018 .

**Measures :**The study utilized questionnaires and instruments to Cognitive emotion regulation strategies, and cognitive test anxiety.

1- *Cognitive emotion regulation strategies*(Garnefsky and Kraaij,2007): Cognitive emotion regulation strategies were measured by the Cognitive Emotion Regulation Questionnaire (CERQ). The Questionnaire was translated into Arabic by using the translation-back-translation method. The CERQ is a self-report questionnaire assessing what people think after the experience of threatening or stressful events. The CERQ consists of 36 items and has nine conceptually different subscales: Self-blame, Other-blame, Rumination, Catastrophizing, Putting into perspective, Positive refocusing, Positive reappraisal, Acceptance, and Planning. Each subscale consists of 4 items. Answer categories range from 1 (never) to 5 (always). A subscale score can be obtained by adding up the four items (range: from 4 to 20), indicating the extent to which a certain cognitive emotion regulation strategy is used. It has been shown that the alpha-reliabilities of the subscales range from .77 to .89. The validity of the questionnaire found out by finding the inter-item consistency which proved to significant at the 0.01 level for all items.

2- *Cognitive Test Anxiety scale* (Jerrell & Ronald ,2002). A 27-item scale which is generally completed by undergraduate students in 8 to 15 min. The Scale follow 4 point Likert scale ( Not at all typical of me, Only somewhat typical of me, Quite typical of me, and Very typical of me. )

The test-re-test reliability of the questionnaire was found out to be 0.92, The validity of the questionnaire found out by finding the inter-item consistency which proved to significant at the 0.01 level for all items.

**Procedure** . Prior to data collection, a written informed consent was obtained from the participants. Six participants withdrew from the study.

**Data Analysis** .After checking the retrieved questionnaires to determine their suitability for analysis, and discarding those with missing information, the data were collated and analyzed using IBM SPSS Statistics 20. Computations for descriptive statistics, correlations, and regression were done.

## Results

### Correlation analysis

Prior to carrying out the regression analysis it was first necessary to conduct bivariate correlation analysis to ascertain the relationships between subscales of adaptive / maladaptive cognitive emotion regulation strategies and cognitive test anxiety.

The correlation coefficient results revealed significant positive relationship between cognitive test anxiety and self-blame ( $r = .532$ ) , blaming others ( $r = .281$ ) , rumination ( $r = .412$ ) and catastrophizing ( $r = .565$ ) while the correlation coefficients were negative for acceptance ( $r = -.387$ ) , refocus on planning ( $r = -.356$ ), positive refocusing( $r = -.323$ ), positive reappraisal ( $r = -.344$ ), and putting into perspective( $r = -.289$ ).

Table 1. Pearson correlation coefficients between subscales of Adaptive / maladaptive cognitive emotion regulation strategies and cognitive test anxiety

subscales of Adaptive / maladaptive cognitive emotion regulation strategies	cognitive test anxiety
self-blame	.532**
blaming others	.281*
acceptance	-.387*
refocus on planning	-.356*
positive refocusing	-.323*
rumination	.412**
positive reappraisal	-.344*
putting into perspective	-.289*
catastrophizing	.565**

### Regression analysis

Multiple regression was performed to investigate the ability of subscales of adaptive / maladaptive cognitive emotion regulation strategies to predict cognitive test anxiety. As shown in Table 2, the results indicated that the following beta weights which represented the relative contribution of the independent variables to the prediction were observed. self-blame ( $\beta = .313$ ,  $t = 2.010$ ), blaming others( $\beta = .327$ ,  $t = 2.273$ ),

acceptance( $\beta = -.244$ ,  $t = -2.098$ ), refocus on planning( $\beta = -.287$ ,  $t = -2.143$ ), positive refocusing( $\beta = -.255$ ,  $t = -2.164$ ), rumination( $\beta = .323$ ,  $t = 2.119$ ), positive reappraisal( $\beta = -.411$ ,  $t = -3.09$ ), putting into perspective( $\beta = -.253$ ,  $t = -2.103$ ), and catastrophizing( $\beta = .444$ ,  $t = 3.223$ ).

Table 2. Results of multiple regression for prediction of cognitive test anxiety

Variables	R <sup>2</sup>	F	$\beta$	t	Sig(p)
	.330	6.541 <sup>**</sup>			
self-blame			.313	2.010	.047 <sup>*</sup>
blaming others			.327	2.273	.025 <sup>*</sup>
acceptance			-.244	-2.098	.039 <sup>*</sup>
refocus on planning			-.287	-2.143	.021 <sup>*</sup>
positive refocusing			-.255	-2.164	.025 <sup>*</sup>
rumination			.323	2.119	.038 <sup>*</sup>
positive reappraisal			-.411	-3.09	.020 <sup>*</sup>
putting into perspective			-.253	-2.103	.023 <sup>*</sup>
catastrophizing			.444	3.223	.00 <sup>*</sup>

## Discussion

The purpose of this study was to investigate the role of adaptive / maladaptive cognitive emotion regulation strategies in the prediction of cognitive test anxiety among university students. Results revealed significant positive relationship between cognitive test anxiety and self-blame ( $r = .532$ ), blaming others ( $r = .281$ ), rumination ( $r = .412$ ) and catastrophizing ( $r = .565$ ) while the correlation coefficients were negative for acceptance ( $r = -.387$ ), refocus on planning ( $r = -.356$ ), positive refocusing( $r = -.323$ ), positive reappraisal ( $r = -.344$ ), and putting into perspective( $r = -.289$ ). As shown in Table 2, the results indicated that the following beta weights which represented the relative contribution of the independent variables to the prediction were observed. self-blame ( $\beta = .313$ ,  $t = 2.010$ ), blaming others( $\beta = .327$ ,  $t = 2.273$ ), acceptance( $\beta = -.244$ ,  $t = -2.098$ ), refocus on planning( $\beta = -.287$ ,  $t = -2.143$ ), positive refocusing( $\beta = -.255$ ,  $t = -2.164$ ), rumination( $\beta = .323$ ,  $t = 2.119$ ), positive reappraisal( $\beta = -.411$ ,  $t = -3.09$ ), putting into perspective( $\beta = -.253$ ,  $t = -2.103$ ), and catastrophizing( $\beta = .444$ ,  $t = 3.223$ ).

It can be inferred from these results that overuse of self-blame, blaming others, rumination, and catastrophizing strategies as maladaptive reactions are accompanied by higher intensification and continuation of cognitive test anxiety. The negative relationship between cognitive test anxiety, in one hand, and planning, positive refocusing, positive reappraisal strategies, on the other hand, has also been reported in several other studies. The relevant research suggests that in encountering with stressful events, such as test situation, students who apply adaptive (planning, positive refocusing, positive reappraisal and putting into perspective) strategies experience less test anxiety (Chan et al., 2015; Martin & Dahlen, 2005) and catastrophizing and personalization have been shown to predict manifest anxiety (Weems, Berman, Silverman, & Saavedra, 2001). That is, using more rumination and catastrophizing strategies as well as fewer acceptance and positive refocusing strategies would lead to higher scores in cognitive test anxiety.

## Conclusions

In this study, the relationships between adaptive and maladaptive emotion regulation strategies and cognitive test anxiety have become clear. Adaptive strategies relate to lower scores on cognitive test anxiety. Maladaptive strategies relate to higher scores on cognitive test anxiety. This means that emotion regulation is important in people who struggle with cognitive test anxiety, and emotion regulation should be a part of the assessment and treatment these people receive.

We can clearly say that any of the student's problems result from test anxiety and using negative and inefficient emotional cognitive strategies while being evaluated at the university level. This negative and inefficient strategy highly affect the result of their academic achievement.

In conclusion, the present study found indications for relationships between cognitive emotion regulation strategies and cognitive test anxiety among university students in Egypt. This provides possible targets for interventions to improve cognitive test anxiety. However, because this was the first study that focused on such relationships in Egypt, further research is necessary.

I hope that that this study will be of some benefit to students and teachers in developing cognitive emotion regulation strategies for effective learning.

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## **Issues related to identification of children with specific learning disorders(SLDs): insights into DSM-5**

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## Abstract

*This article examines issues related to identification of children with specific learning disorders (SLDs). The focus is on the Diagnostic Criteria in DSM-5, diagnostic features, associated features supporting diagnosis, and Prevalence are discussed.*

**Keywords.** specific learning disorders (SLDs), DSM-5 diagnostic criteria, associated features supporting diagnosis, Prevalence

## Introduction

The term 'Learning Disabilities' was first given by a psychologist, Samuel Kirk in 1963, followed by which number of researchers had done research on different aspects of Specific Learning Disabilities and till now research is going on, but the prominent causes behind it are not yet identified (Amandeep and Jubilee, 2017). Diagnostic and Statistical Manual, American Psychiatric Association, (DSM-5 2013) has viewed Specific Learning Disorder as difficulties in acquiring and applying the academic skills and at least for the 6 months presence of at least one symptom as: Slow, incorrect and effortful word reading, complexity in understanding the meaning of content, problems in written expression, complexities with numbers and calculations and spelling difficulties.

As the APA stated, SLD "occurs across languages, cultures, races, and socioeconomic conditions but may vary in its manifestation according to the nature of the spoken and written symbol systems and cultural and educational practices" (p. 72).

There was a long debate since Bateman (1965) first proposed that

*"Children who have learning disorders are those who manifest an educationally significant discrepancy between their estimated intellectual potential and actual level of performance related to basic disorders in the learning process, which may or may not be accompanied by demonstrable central nervous system dysfunction and which are not secondary to generalized mental retardation, educational or cultural deprivation, severe emotional disturbance, or sensory loss". (p. 220).*

Diagnosis of SLD was traditionally determined using a discrepancy model where a child's performance on standardized achievement tests is substantially below (more than 2 standard deviations (SDs) between achievement and IQ or 1 to 2 SDs if comorbid factors are present) expectations based on age, schooling, and intelligence level (APA, 2000).

IQ-Achievement discrepancy is a procedure used for identifying a severe discrepancy between achievement and intellectual ability in one or more of the following areas: oral expression, listening comprehension, written expression, basic reading skills, reading comprehension, mathematics calculation, and mathematics reasoning (Vaughn & Fuchs, 2003).

However, there have been problematic psychometric issues with this model which can be attributed to the small measurement error of IQ and achievement tests, and also other factors that make single assessment of IQ and achievement unreliable for identifying SLD.

International diagnostic criteria for learning disabilities were modified. There are several fundamental changes in the newly proposed diagnostic criteria: the elimination of "Discrepancy Criterion", the reference to "Response to intervention approach" and a new view by which learning disorders are seen as a group of disorders, within the Neurodevelopmental disorders group (APA, 2013).

Diagnosis of SLD is based on the information gathered from family history, developmental history, medical history, educational reports, formal and informal assessments, previous and current manifestation and impact of SLD.

### *Diagnostic Criteria in DSM-5*

DSM-5 identified the following diagnostic criteria

A. Difficulties learning and using academic skills, as indicated by the presence of at least one of the following symptoms that have persisted for at least 6 months, despite the provision of interventions that target those difficulties:

1. Inaccurate or slow and effortful word reading (e.g., reads single words aloud incorrectly or slowly and hesitantly, frequently guesses words, has difficulty sounding out words).

2. Difficulty understanding the meaning of what is read (e.g., may read text accurately but not understand the sequence, relationships, inferences, or deeper meanings of what is read).

3. Difficulties with spelling (e.g., may add, omit, or substitute vowels or consonants). 4. Difficulties with written expression (e.g., makes multiple grammatical or punctuation errors within sentences; employs poor paragraph organization; written expression of ideas lacks clarity).

5. Difficulties mastering number sense, number facts, or calculation (e.g., has poor understanding of numbers, their magnitude, and relationships; counts on fingers to add single-digit numbers instead of recalling the math fact as peers do; gets lost in the midst of arithmetic computation and may switch procedures).

6. Difficulties with mathematical reasoning (e.g., has severe difficulty applying mathematical concepts, facts, or procedures to solve quantitative problems).

B. The affected academic skills are substantially and quantifiably below those expected for the individual's chronological age, and cause significant interference with academic or occupational performance, or with activities of daily living, as confirmed by individually administered standardized achievement measures and comprehensive clinical assessment. For individuals age 17 years and older, a documented history of impairing learning difficulties may be substituted for the standardized assessment.

C. The learning difficulties begin during school-age years but may not become fully manifest until the demands for those affected academic skills exceed the individual's limited capacities (e.g., as in timed tests, reading or writing lengthy complex reports for a tight deadline, excessively heavy academic loads).

D. The learning difficulties are not better accounted for by intellectual disabilities, uncorrected visual or auditory acuity, other mental or neurological disorders, psychosocial adversity, lack of proficiency in the language of academic instruction, or inadequate educational instruction.

The four criteria are to be assessed which includes individual history (developmental, medical, family & educational), school reports, psychological and educational assessments.

Concerning Criterion A, in order for the student to be identified with specific learning disorder, he/she should have persistent difficulties learning keystone academic skills with onset during the years of formal schooling (i.e., the developmental period). Key academic skills include reading of single words accurately and fluently, reading comprehension, written expression and spelling, arithmetic calculation, and mathematical reasoning (solving mathematical problems).

Difficulties mastering these key academic skills may also impede learning in other academic subjects (e.g., history, science, social studies), but those problems are attributable to difficulties learning the underlying academic skills.(pp.66-67).

In children and adolescents, *persistence* is defined as restricted progress in learning (i.e., no evidence that the individual is catching up with classmates) for at least 6 months despite the provision of extra help at home or school. For example, difficulties learning to read single words that do not fully or rapidly remit with the provision of instruction in phonological skills or word identification strategies may indicate a specific learning disorder. Evidence of persistent learning difficulties may be derived from cumulative school reports, portfolios of the child's evaluated work, curriculum-based measures, or clinical interview. In adults, persistent difficulty refers to ongoing difficulties in literacy or numeracy skills that manifest during childhood or adolescence, as indicated by cumulative evidence from school reports, evaluated portfolios of work, or previous assessments(APA,2013).

As to Criteria B, the individual's performance of the affected academic skills is well below average for age or average performance that is sustainable by extraordinary high levels of support. In children, the low academic skills cause significant interference in school performance (reported by teachers and teacher's grades or ratings). In adults, there is avoidance of activities that require the academic skills. On the basis of clinical judgment a more lenient threshold may be used when SLD is supported by converging evidence from clinical assessment, academic history, school reports or test scores, as standardized tests are not available in all languages the diagnosis may then be based in part on clinical judgment of scores on available test measures. (DSM 5, 2013).

The DSM- 5 defines academic skill deficits as "Low achievement scores on one or more standardized tests or subtests within an academic domain (i.e., at least 1.5 standard deviations [SD] below the population mean for age, which translates to a standard score of 78 or less, which is below the 7th percentile) are needed for the greatest diagnostic certainty. However, precise scores will vary according to the particular standardized tests that are used(P.69). Furthermore, the DSM states that "On the basis of clinical judgment, a more lenient threshold may be used (e.g., 1.0-2.5 SD below the population mean for age), when learning difficulties are supported by converging evidence from clinical assessment, academic history, school reports, or test scores(P.69).

A third core feature is that the learning difficulties are readily apparent in the early school years in most individuals (Criterion C). However, in others, the learning difficulties may not manifest fully until later school years, by which time learning demands have increased and exceed the individual's limited capacities(P.70).

The DSM-5 emphasizes that learning difficulties are considered "specific," for four reasons. First, they are not attributable to intellectual disabilities (intellectual disability [intellectual developmental disorder]); global developmental delay; hearing or vision disorders, or neurological or motor disorders) (Criterion D). Specific learning disorder affects learning in individuals who otherwise demonstrate normal levels of intellectual functioning (generally estimated by an IQ score of greater than about 70 [ $\pm 5$  points allowing for measurement error]). The phrase "unexpected academic underachievement" is often cited as the defining characteristic of specific learning disorder in that the specific learning disabilities are not part of a more general learning difficulty as manifested in intellectual disability or global developmental delay. Specific learning disorder may also occur in individuals identified as intellectually "gifted." These individuals may be able to sustain apparently adequate academic functioning by using compensatory strategies, extraordinarily high effort, or support, until the learning demands or assessment procedures (e.g., timed tests) pose barriers to their demonstrating their learning or

accomplishing required tasks. Second, the learning difficulty cannot be attributed to more general external factors, such as economic or environmental disadvantage, chronic absenteeism, or lack of education as typically provided in the individual's community context. Third, the learning difficulty cannot be attributed to a neurological (e.g., pediatric stroke) or motor disorders or to vision or hearing disorders, which are often associated with problems

learning academic skills but are distinguishable by presence of neurological signs. Finally, the learning difficulty may be restricted to one academic skill or domain (e.g., reading single words, retrieving or calculating number facts). (APA, 2013, PP. 69-70).

The DSM-5 has cautiously omitted any reference to an IQ/ Achievement discrepancy, and while it does emphasize the need to conduct a comprehensive assessment, it also states that although cognitive processing deficits are often seen in individuals with SLD, this is not unique to SLD (e.g., ADHD also evidence processing problems) and suggests that “assessment of cognitive processing deficits is not required for diagnostic assessment” (p. 70).

Specific learning disorder is frequently but not invariably preceded, in preschool years, by delays in attention, language, or motor skills that may persist and co-occur with specific learning disorder. Many features associated with SLDs are also found in other neurodevelopmental disorders eg. ADHD, ASD, communication disorders, developmental coordination disorder. There are no known biological markers of SLD neither cognitive testing, neuro imaging nor genetic testing are useful for diagnosis at this time.

The prevalence of specific learning disorder across the academic domains of reading, writing, and mathematics is 5%-15% among school-age children across different languages and cultures. Prevalence in adults is unknown but appears to be approximately 4%. (APA,2013, P.70)

### *Conclusion*

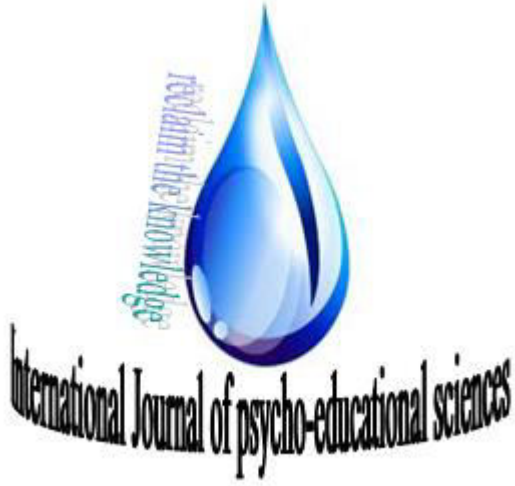
Although largely unchanged, the definition of SLD is noted as a disorder with a neurobiological basis, which includes not only genetic factors but also epigenetic and environmental factors interacting and affecting an individual's ability to process verbal or nonverbal information.

The term specific learning disorder was up-dated (from learning disorder ) to emphasize multiple sub-skill impairments individuals may demonstrate in various academic domains (e.g., reading, mathematics, written language) that would fall under this diagnosis. For example, children with RD may be diagnosed as having a specific learning disorder with impairment in reading , as a specifier, which can be further delineated into three areas: word reading accuracy (which may include decoding), reading fluency, and reading comprehension. As for specific impairments in mathematics and written expression, various sub-skills were also delineated under these academic domains (e.g., number sense, spelling, calculation, etc.), which overall provide substantial information on particular skill deficits for remediation.

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# **Effect of Secondary School Students' Metaphorical Perceptions Regarding Mathematics Classes and Mathematics Teachers on Achievement**

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## Abstract

*This study aimed to examine the effects of secondary school students' metaphorical perceptions regarding mathematics classes and lesson teachers on achievement. A mixed model was used. Positive and negative metaphors generated by students about mathematics classes and mathematics teachers were compared with their achievement in mathematics. After data analysis, the findings were interpreted. Students' metaphoric perceptions related to mathematics classes and mathematics teachers were found to be parallel. Also, negative or positive attitudes towards the lesson and teacher were found to directly influence achievement. Hence, student attitudes towards mathematics lesson and mathematics teachers highly predict their achievement in mathematics.*

**Keywords** Achievement, mathematics, metaphor, secondary school students.

## Introduction

Almost in all cultures and in each different expression, individuals express their feelings, ideas and thoughts in different manners. These expressions can take written or oral forms or use body language. Responses provided in written or oral forms or by using body language can be direct or indirect. Individuals can indirectly convey some feelings and thoughts that they cannot directly transmit. Indirect expressions or implications are more effective when direct expressions are hard to use in terms of human relations while explaining complex situations or abstract notions. Metaphors are one of these indirect expression methods and are often used to express emotions and thoughts in some situations.

In its general sense, a metaphor is the direct expression of a perception related to a concept. It means the individual reflects his or her thoughts on a concept in a different way. Through the use of metaphors, individuals attach new knowledge to an existing mental scheme to tie the new information with the previous one (Arslan and Bayrakci 2006). While metaphor is defined as a concept that combines associations, comparisons and approximations (Ahkemoglu 2011), it is also defined as tools of imitation that underlie an individual's awareness (Massengill-Shaw and Mahlios 2008). All these definitions show that metaphors are figurative expressions.

However, some of the explanations provided in literature show that metaphors are not only figurative speech. It is observed that metaphors also generate a basic thought mechanism (Lakoff and Johnson 2005; Martinez et al. 2001); they are perception tools (Arnett 1999) and are made sense as linguistic tools that link two objects or concepts (Palmquist 2001). It is also suggested that metaphors provide opportunities to "know" as tools to understand nature and the environment, to make sense of seemingly meaningless objective realities via specific interpretations and to bring meaning to experiences and practices (Yildirim and Simsek 2008).

The most important characteristic of metaphors is the active participation of the individual to understanding the metaphorical meaning during the individual's pursuit of meaning (Noyes 2006). Sense making especially related to abstract concepts is a process generated by active participation of individuals with their experiences. Metaphors do not only constitute figurative expressions but also generate mental structures. When the individual is inclined to think figuratively or use metaphorical expressions, the mind will move in that direction. Metaphorical relationships make up an important part of conceptual systems

(Martinez et al. 2001). Metaphorical manners of expression are important factors in presenting the dimensions of depths of concepts. When definitions of metaphors are examined, it is observed that they are powerful tools to present mental images and reflect individual's thought patterns.

Metaphors in education are primarily preferred in developing planning, development of instructional programs, fostering learning and enhancing creative (Aydin and Pehlivan 2010) and critical thinking as well as explaining complex concepts and facts (Semerci 2007). In recent years, metaphors are used more often in educational research. Due to several reasons, students have been found to prefer metaphorical expressions rather than direct expressions in studies. Individuals can better express their real thoughts using metaphorical expressions. Diverse teaching styles and program theories may reveal the relationship between abstract and concrete concepts with the use of metaphors in a simpler manner (Oxford 1998). Therefore, metaphors are important tools in educational research to comprehend educational problems and offer different viewpoints.

Literature review has presented many studies in which metaphorical analyses were conducted in teaching and training. These studies used metaphors to analyze the teaching process (Aykac 2012; Eren and Tekinarslan 2012; Leavy et al. 2007; Martinez et al. 2001; Tasdemir and Tasdemir 2011), the teaching profession (Celikten 2006; Cerit 2008; Ekiz and Kocyigit 2013; Eren and Tekinarslan 2012; Goldstein 2005; Nikitina and Furuoka 2008; Pektas and Kildan 2009; Saban et al. 2006), students (Eraslan-Capan 2010; Minas ve Gündoğdu, 2013; Saban 2009), development of teaching programs and program development (Gultekin 2013; Orten and Erginer 2010; Ozdemir 2012a; Semerci 2007), assessment and evaluation (Sadik and Sari 2012; Soydas and Guven 2009; Tatar and Murat 2011), educational management (Cerit 2008; Donmez 2008; Dos 2010; Ertan-Kantos 2011; Levine 2005; Orucu 2012; Yalcin and Erginer 2012) and school and classroom (Aydogdu 2008; Balci 1999; Cerit 2006; Gordon 2010; Nalcaci and Bektas, 2012; Ozdemir 2012b) concepts (Tasgin and Kose 2015). These studies mostly examined metaphors related to education in a qualitative manner and analyzed the meanings associated with these concepts in the form of themes.

Effective and successful undertaking of activities and tasks is the goal of training and education. Concrete success comes from presenting the effectiveness of the tasks by means of student development or student achievement. Everything attempted in education and training is designed with student achievement in mind. There are many factors that affect student achievement and in general, these factors may be related to students themselves, their families, schools, teachers or the environment. A myriad of studies exists about the factors that affect student achievement. Some studies emphasize that one of the factors that directly affect student achievement is the teacher (Akyuz 2006; Dede 2004; Dursun and Gunduz 2014; Igwebuike 2013; Rockoff 2003; Valli et al. 2003). These studies have generally concluded that teachers are among the most important factors that directly affect student achievement and students' lesson achievement is mostly related to their teachers.

In addition to cognitive factors, student achievement is immensely affected by affective factors. According to Bloom's (1979) Mastery Learning Theory, affective input behaviors such as interest, attitude and academic achievement are rather effective on student achievement in addition to cognitive input behaviors. In this sense, an affective commitment towards the lesson and lesson teacher will directly affect student achievement. It is thought that positive student perceptions towards the lesson positively affect perceptions towards the lesson teacher or vice versa. There are many studies that

examine the effects of attitudes towards a lesson or the lesson teacher on academic achievement. These studies have reported that in general, attitudes towards a lesson or the lesson teacher directly affect academic achievement (Ekizoglu and Tezer 2007; Erdogdu 2006; Kanjira 2008; Karasakaloglu and Saracaloglu 2009; Kazazoglu 2013; Yilmazer and Demir 2014).

Studies that investigate the effect of students' affective orientations towards a lesson or a lesson teacher on academic achievement with the help of metaphors are rather scarce. The study that examined the effect of metaphors relate to mathematics classes on achievement at high school level (Yalcin and Eren 2012) reported that metaphors relate to mathematic classes affected achievement. When it is remembered that student perceptions regarding teaching and training are created especially during primary and secondary school levels, it can be claimed that it is imperative to identify negative and positive student perceptions towards classes and teachers and to study whether these perceptions affect student achievement.

This study aimed to examine the effects of secondary school students' metaphorical perceptions related to mathematics classes and lesson teachers on achievement. With this aim in mind, answers were sought to the questions below:

Is there a relationship between student perceptions related to the lesson and their perceptions related to the lesson teacher?

Is there a relationship between student perceptions related to the lesson and their grades?

Is there a relationship between student perceptions related to the lesson teacher and their grades?

## **Method**

The study utilized a mixed model in which qualitative and quantitative data were used in conjunction. Mixed research models consist of collecting qualitative and quantitative data related to the same basic concepts in a single study or in a series of studies for analysis and interpretation (Leech and Onwuegbuzie 2007). Mixed model studies are defined as the combination of qualitative and quantitative research techniques, methods and approaches in one study. Similarly, mixed model research is explained as collecting and analyzing qualitative and quantitative data together in a research process. It can be claimed that mixed model research progresses with qualitative and quantitative data collection, analysis and interpretation stages as in a single study or a series of studies that focus on the same basic topic (Balci 2009). Mixed model research can be defined as the type of research that combines qualitative and quantitative research approaches, methods and techniques to present more effective solutions to a problem. In the current study, both qualitative and quantitative data findings were obtained. They were analyzed in combination in line with the goals of the study.

### *Research model*

In order to collect qualitative data, phenomenological method was used in this study which examined 8th graders' perceptions towards the mathematics lesson and the mathematics teacher with the help of metaphors and investigated the effects of this perception on lesson achievement. Phenomenological design focuses on concepts that the individuals are aware of but do not have detailed an in-depth comprehension (Yildirim and Simsek 2008). Therefore, phenomenological design was selected as the study design to present students' metaphorical perceptions related to mathematics lesson and mathematics teacher. Content

analysis was used in analyzing quantitative data. Yildirim and Simsek (2008) state that the purpose of content analysis is to arrive at concepts and relationships to explain the collected data and the data summarized and interpreted in descriptive analysis will be processed more in depth via content analysis.

Document review method was used for analyzing the quantitative data. Average of the student grades for one semester was calculated and this grade was accepted as the year-end achievement score. This score was based on the system where the highest score is 100.

### *Participants*

The study group of this study was composed of 120 randomly selected 8th graders from two secondary schools in Erzurum province central district in the spring term of 2013-2014 academic year. Metaphorical student perceptions related to mathematics lesson and mathematics teachers were collected along with students' end of term mathematics achievement. Table 1 presents participants' demographic information.

Table 1: *Participants' demographic characteristics*

<b>Gender</b>	<b>f</b>	<b>%</b>
Female	43	48.1
Male	45	51.1
Total	88	100.0
<b>Classroom</b>	<b>f</b>	<b>%</b>
8/A	21	23.9
8/B	21	23.9
8/C	23	26.1
8/D	23	26.1
Total	88	100.0
Lesson Teacher1	42	47.7
Lesson Teacher2	46	52.3
Total	88	100.0

Table 1 shows that 43 of the participants were females and 45 were males. The participants belonged to four different 8th grades. The same mathematics teacher taught two of the classes (42 students) while another mathematics teacher taught the other two participating classes (46 students).

### *Data collection and analysis process*

In order to reveal participating 8th graders' perceptions related to "mathematics lesson" and "mathematics teacher", students were presented with statements such as "mathematics lesson is like....., because....." and "mathematics teacher is like....., because.....". Students were asked to complete these sentences based on their perceptions. Students were informed of the research topic and its rationale and the forms were distributed and collected after 10-15 minutes.

Data related to the metaphors developed by the participants were analyzed in four steps: coding and extraction, development of categories and quantitative data analysis. In coding and extraction stage, the metaphors generated by students were first listed alphabetically and metaphors generated by each participant were coded by using a word. While metaphors were being analyzed, responses that were not in full or that did not have

metaphorical properties were eliminated. Although a total of 120 students from 4 classes were included in the study, 20 students were eliminated since their responses were not provided in full or they lacked metaphorical properties and metaphors of 12 students were also eliminated and as a result, data from 88 students were accepted as metaphors and analyzed.

In category development stage, the concepts generated by students for mathematic classes and mathematics teachers were separately reviewed and combined under two categories by taking common properties into consideration. These categories were: positive and negative metaphors related to mathematic classes and positive and negative metaphors related to mathematics teachers. A commission consisting of two educational sciences experts and one Turkish instructor made decisions about the status of negative and positive metaphorical meanings. This commission made its decisions by reviewing the metaphors generated by students for both mathematic classes and mathematics teachers one by one. The metaphors for which no decisions could be made and the metaphors for which unanimity was not established were eliminated. The metaphors identified in this manner were coded as “1” for positive metaphors and as “2” for negative metaphors and recorded.

The implementation to identify student perceptions was carried out at the beginning of the spring term of 2013-2014 academic year and at the end of the semester, student grades were obtained from the school administration. The grades pointed to the average of 4 separate grades for each student and composed of the scores for two compulsory written exams, one oral exam or applied exam and one performance work. The grades followed the scoring system out of 100. Without assigning any additional weights, the average of these four scores was taken and the obtained score was accepted as the end of term achievement score. These mathematics grades were recorded as they are. Students’ quantified perceptions and average mathematics grades were compared. Interesting points in students’ metaphorical perceptions were provided as “anecdotes”. Statistical operations such as frequencies, percentages and chi-square were done and the results were interpreted.

## **Findings**

In this specific study, the factors that could affect student achievement, perceptions regarding the lesson and perceptions regarding the teacher were gender, classroom and the teacher. Whether students’ metaphorical perceptions and achievement differed according to gender was crucial, however, no significant differences were found based on gender which means there were no meaningful relationships between gender and metaphorical perception or gender and lesson achievement. Students’ achievement, perceptions related to the lesson or the perceptions related to lesson teacher did not change according to gender. At class level, no significant changes were found in regards to metaphorical perceptions or lesson achievement. Thinking that lesson teachers might be effective in this regard, the effect of teachers on students’ metaphorical perceptions and achievement was examined. However, no significant relationships were detected. It was concluded that demographical properties of the sample (gender, classroom and lesson teacher) did not affect metaphorical perceptions and achievement. This result was expected and desired by the researcher.

Examination of student metaphors related to mathematics classes presented 34 different metaphors. The most often expressed metaphors were puzzles, water, chocolate, nightmare, numbers and darkness. 15 of these metaphors were positive while 19 were negative. This shows that the ratio of students who liked mathematics was lower than

those who did not. This finding is parallel to the negative attitude towards mathematics observed in Turkish public.

Examination of student metaphors related to mathematics teachers presented 31 different metaphors. The most often expressed metaphors were lodestar, old sycamore, angel, a bag of nerves, volcano and disciplined. 14 of these metaphors were positive while 17 were negative.

Negative student perceptions were found to be higher than their positive perceptions. After the obtained metaphors were grouped as negative and positive, they were statistically analyzed by transforming them into quantitative data.

Table 2: *Effect of students' lesson perceptions on their teacher perceptions*

Lesson Perception	Teacher Perception		
	Pearson	N	Sig.
	Correlation		(2-tailed)
	0.704	88	0.000

Table 2 points to significant relationships between students' metaphorical perceptions towards the mathematics lesson and their metaphorical perceptions towards the mathematics teacher. It shows the existence of a high level relationship between students' metaphorical perceptions towards the mathematics lesson and their metaphorical perceptions towards the mathematics teacher. Student perceptions towards the mathematics lesson and the mathematics teacher were parallel and similar. If student attitude towards the mathematics lesson was positive, student attitude towards the mathematics teacher was also positive and if student attitude towards the mathematics lesson was negative, student attitude towards the mathematics teacher was also negative.

Table 3: *Effect of students' perceptions towards the mathematics lesson on their achievement*

Lesson Perception	Lesson Achievement Score		
	Pearson	N	Sig.
	Correlation		(2-tailed)
	0.495	88	0.000

Table 3 presents the statistical data analyzed to observe whether students' lesson perceptions affected their end of term achievement scores. Accordingly, a significant relationship was found at 0.01 level of significance between students' metaphorical perceptions related to mathematics lesson and their achievement. This finding points to direct relationships between positive and negative perceptions towards mathematics classes and high or low scores. It means that students with positive attitudes towards mathematics classes have high scores whereas students with negative attitudes towards mathematics classes have lower achievement scores.

Table 4: *Effect of students' perceptions towards the mathematics teachers on their achievement.*

Teacher Perception	Lesson Achievement Score		
	Pearson	N	Sig.
	Correlation		(2-tailed)
	0.371	88	0.000



Table 4 presents the statistical data analyzed to observe whether students' perceptions towards their mathematics teachers affected their end of term achievement scores. Accordingly, a significant relationship was found at 0.01 level of significance between students' metaphorical perceptions related to mathematics teachers and their achievement. This finding points to direct relationships between positive and negative perceptions towards mathematics teachers and high or low scores. It means that students with positive attitudes towards mathematics teachers have high scores whereas students with negative attitudes towards mathematics teachers have lower achievement scores.

As a result of all these investigations into the relationships between perceptions and achievement, it was found that metaphorical perceptions towards both the mathematics classes and the mathematics teachers affected achievement. In general, students with positive metaphorical perceptions had higher achievement in mathematics and students with negative metaphorical perceptions had lower achievement in mathematics. This finding shows that students' lesson and teacher perceptions directly affect achievement in the specific lesson. It can also be claimed that students' attitudes towards the lesson and the lesson teacher predict their achievement in the lesson.

### **Results, Discussion and Suggestions**

Students generated many metaphors for mathematics lesson and mathematics teachers. The fact that metaphors differed from one another was related to different experienced and perceptions on the part of students. The generated metaphors mostly reflected students' positive or negative perceptions and that was expected and desired by the researcher. The most usually generated positive metaphors for mathematics lesson included "puzzle", "numbers", "water", "chocolate" and "lodestar". The most usually generated negative metaphors for mathematics lesson included "a dark road", "lightning", "nightmare", "death" and "knotted hair". This result reflects the social perception in the society related to mathematics. Especially the negative metaphors reflect the negative attitudes towards mathematics lesson. Of course, the students who have negative attitudes towards the lesson and who do not like it cannot be expected to be successful in the lesson. One of the main foundations of success in a lesson comes from positive affective behaviors towards the lesson (Bloom 1979).

The most usually generated positive metaphors for mathematics teachers included "pretty", "sweet", "advisor", "an illuminating road" and "lodestar". The most usually generated negative metaphors for mathematics teachers included "cloud", "nervous", "boring", "darkness", "volcano" and "disciplined". Results are noteworthy both in qualitative and quantitative aspects. Students who have negative attitudes towards their teachers cannot be expected to achieve success in this lesson. There are no difficult lessons, only teachers who make these lessons harder an unbearable (Buyukkaragoz and Civi 1999).

The statistical analyses pointed to significant relationships between students' metaphorical perceptions related to the lesson and the lesson teacher. This result verifies researcher's hypothesis. Students' metaphorical perceptions were found to be consistent in themselves. Literature includes studies in which there are parallels between perceptions towards the lesson and perceptions towards the teachers (Dursun and Dede 2004; Koc 2014; Toluk et al. 2010; Wu 1999; Yilmazer and Demir 2014). When student perceptions related to lesson are positive, their perceptions related to teachers are also positive. Although rarely there

may be students who have different perceptions towards the lesson and the teacher, this differentiation is not significant.

The results of the statistical analysis employed in the study pointed to significant relationships between students' metaphorical perceptions towards the lesson and their achievement at the end of the term. This result verifies researcher's hypothesis. Studies in the field have pointed to perceptions and attitudes as important factors that affect student achievement (Dursun and Dede 2004; Ekizoglu and Tezer 2007; Igwebuike 2013; Karasakaloglu and Saracaloglu 2009; Kazazoglu 2013; Yalcin and Eren 2012; Yilmazer and Demir 2014). Students' metaphorical perceptions related to mathematics classes were found to be parallel to their achievement. This result shows that start of the term perceptions related to the lesson strongly predicts academic achievement.

The results of the statistical analysis employed in the study pointed to significant relationships between students' metaphorical perceptions towards the lesson teacher and their achievement at the end of the term. This result verifies researcher's hypothesis. Similar results have been obtained in other studies conducted in the field (Akyuz 2006; Ekiz and Kocyigit 2012; Igwebuike 2013; Karasakaloglu and Saracaloglu 2009; Kazazoglu 2013; Koc 2014; Oflaz 2011; Yalcin and Eren 2012; Yilmazer and Demir 2014). This results shows that students' affective perceptions related to lesson teacher strongly predicts academic achievement

As a result, it was found that 8th graders' metaphorical attitudes towards the mathematics lesson and the mathematics teacher directly affected achievement. When student attitudes towards the lesson and the teacher were positive, they had higher achievement and when student attitudes towards the lesson and the teacher were negative, they had lower achievement. Achievement in a lesson is highly related to positive affective behaviors towards the lesson and the teacher. The results of the current study confirm this view. Findings of the current study are parallel to the findings of previous studies (Igwebuike 2013; Lakoff 2009; Yalcin and Eren 2012; Yilmazer and Demir 2014). It was found that metaphorical student perceptions relate to mathematics lesson and the mathematics teacher directly affected achievement in mathematics lessons.

Based on the results of this study, it is suggested that teachers encourage their students to like the lesson and the lesson subjects. Taking the psychological conditions of secondary school students into consideration, teachers should make efforts to generate positive feelings between themselves and students. Metaphorical studies on factors that affect achievement should be conducted at different educational levels and in different classes.

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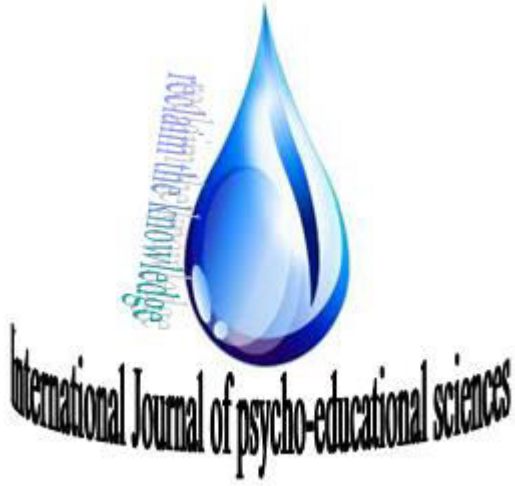
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# **Bullying and Social Emotional Learning Among Junior High Students: A Theoretical Model Approach**

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## Abstract

The present study aimed to construct a theoretical model based on the correlation between social emotional learning and coping with peer bullying in junior high school students and to test this theoretical model with respect to the gender variable. The study group included 295 students attending a junior high school in Düzce province (Turkey) during the 2016-2017 academic year. 140 participants were female and 155 were male. 40 students were seventh grade and 255 were eighth grade students. Social Emotional Learning Skills Scale and Bullying scales were used as data collection instruments. It was found that the impact of self-worth development skills on victim dimension for female students was  $\beta = -.220$  ( $p < .05$ ), and the impact of self-worth development skills on victim dimension for male students was  $\beta = -.385$  ( $p < .05$ ). The findings that the problem-solving skill was effective on bullying among the females ( $\beta = -.216$ ,  $p < .05$ ) and the effects of the problem solving skill ( $\beta = -.144$ ,  $p < .05$ ) and coping with stress skills ( $\beta = -.235$ ,  $p > .05$ ) on bullying among the males.

**Keywords:** Bullying, Social Emotional Learning, Junior high school students.

## Introduction

Bullying is considered a very serious problem with adverse effects on physical and mental health of individuals in several parts of the world and continues to attract the attention of many researchers. Bullying is a form of continuous intentional behavior by one or more individuals towards a weaker individual or individuals where there is no balance of power (Olweus, 1999).

Baldry and Farrington (2000) distinguished bullying from other quarrels and arguments, teasing and school quarrels by the presence of factors such as sustenance and the physical and power imbalances between the bully and the victim.

According to Olweus (2003), three criteria are used to distinguish bullying from aggressive behavior.

1) The behavior is intentional, deliberate and conscious in aiming to hurt and harm the other individual in bullying (Bullying is similar to aggression in leading to physical or emotional harm, however it includes purposeful actions to have fun, enjoy and gain grounds, while aggression behavior is honest).

2) It contains repetitive and sustained behavior (continuity of bullying; random coercive behavior are not considered as bullying).

3) Presence of power imbalance.

Bullying has different forms such as physical bullying, verbal bullying (nicknaming and threats), relational bullying (social isolation, ostracism and gossiping), and cyberbullying that emerged in the current electronic age (posting annoying messages and photos) (Williams & Guerra, 2007).

There are several adverse effects of bullying both on bully children and adolescents and the victims who are exposed to such behavior, leading to several individual problems. Bully students scare other students by their behavior and statements, leading to the emotion of insecurity in the environment (Olweus, 2002; Olweus, 2003). Furthermore, it

was determined that bullying increases absenteeism among bullied students and reduce their achievements and self-esteem (Pişkin, 2002). Those who were exposed to bullying develop psychological problems in the long run, and experience loneliness, diminished self-esteem, psychosomatic symptoms and depression (Hawker & Boulton, 2000; Kaltiala, Rimpela, Rantanen, & Rimpela, 2000; Parker & Asher, 1987; Salmon, James, & Smith, 1998). They also have higher risk of suicide and can commit suicide (Kaltiala-Heino, Rimpela, Marttunen, Rimpela, & Rantanen, 1999; Rigby & Slee, 1999).

According to Olweus (2003), as a consequence of bullying experienced during school years, victims can develop depression and low self-esteem during adulthood.

In every race, social class, culture and international environment and at every age, males exhibit a higher rate of bullying behavior when compared to females (Graham, 2016).

Males are more likely to be the victims of bullying when compared to females (Pepler, Jiang, Craig & Connolly, 2008). Males are more exposed to bullying compared to females, especially to direct physical bullying. Females mostly face bullying in the form of gossip and manipulation of others' relationships. Previous studies demonstrated that 10% and 30% of children face bullying, and the rate increases in junior high school (Hazler, 1996; Rios-Ellis, Bellamy & Shoji, 2000).

When compared to their peers, bullies tend to misinterpret social interactions as hostile and provocative (Dodge, 1993). Problem solving requires the assessment of probable consequences as well.

They immediately exhibit aggressive behavior without considering the consequences (Pelligrini, 2002) and do not think much about the impact of their behavior on others or on their relationship with others (Arsenio & Lemerise, 2001).

Social emotional learning, the second variable in the study, is defined as the systematic development of basic social and emotional skills that would help students cope effectively with problems in learning and social environments (Ragozzino & Utne, 2009). Social emotional learning is not limited to improving academic performance, but entails adaptation to the changes in the globalizing world and achievement of long-term living skills (Lindsay, 2013).

Social emotional learning is very important for an individual in identification and regulation of own emotions, development of problem-solving skills, and establishing good relationships with other individuals in the community (Zins & Elias, 2007). Social emotional learning helps students develop healthy relationships and active collaboration with peers and teachers, empathy, respect, emotional regulation, self-control, setting goals, critical thinking, affection for others, establishing positive relationships, using coping and problem-solving skills (Varela, Kelcey, Reyes, Gould, & Sklar, 2013). Social emotional learning includes self-recognition and awareness of others, self-management and management of others and taking responsibility for own actions (Brackett & Rivers, 2014).

CASEL (2003) concluded that there are 5 dimensions of social emotional learning:

1) Self-awareness: The individual's awareness about own emotions, values, interests and strengths, assessment of self-competency realistically and improvement of self-confidence.

2) Social-awareness: Understanding emotions of others, being open to different ideas and interacting with others positively.

3) Self-management: self-regulation under stress, impulse control and setting personal and academic goals to overcome obstacles and strive to achieve these goals, explaining and managing emotions in a constructive manner, persistence when facing challenges without losing enthusiasm.

4) Relational skills: Establishing healthy, regarding and quality relationships, resistance to inadequate social pressures, prevention of interpersonal conflicts, management and problem solving, requesting assistance when needed, active use of emotions in communication, healthy communication in collaboration, resistance to negative social pressures, attempting to resolve conflicts and providing assistance when needed.

5) Decision-making: Considering the possible consequences of different situations, application of decision-making skills in academic and social situations, increasing well-being at school and in the society, considering all the possible factors when making decisions, reaching the accurate result by considering different perspectives, and taking responsibility for decisions.

These skills enable children to calm down in case they feel anger, resolve conflicts, and make ethical and safe choices in a respectful manner.

The present study aimed to construct a theoretical model based on the correlation between social emotional learning and coping with peer bullying in junior high school students and to test this theoretical model with respect to the gender variable.

The theoretical model constructed within the theoretical framework is presented in Figure 1.

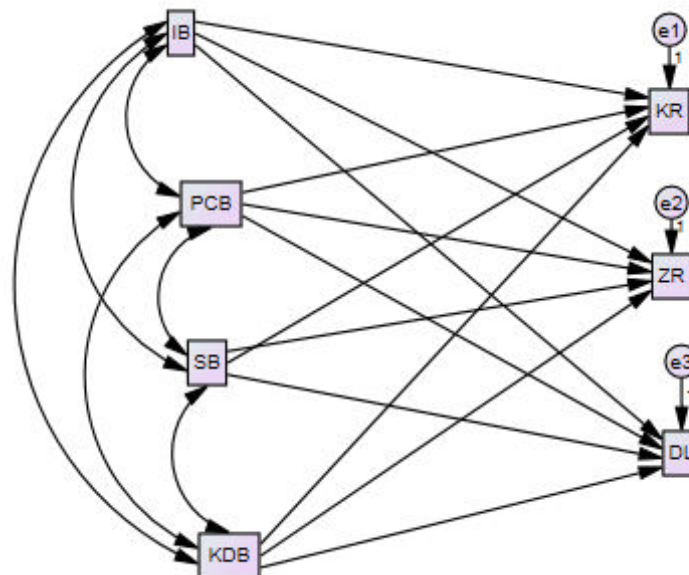


Figure 1. *Theoretical Model*

With respect to the study objective, the theoretical model that scrutinized the correlations between the social emotional learning level sub-dimensions of "Communication Skills (CS)", "Problem Solving Skills (PSS)", "Coping with Stress

Skills" (CSS) and "Self-Worth Development Skills (SWS) and bullying sub-dimensions of "Bully (B)", "Victim (V)" and "Filling (F)" was tested.

The model that emerged with testing was analyzed with multiple group analysis to determine whether there was a difference between the gender groups and 7th and 8th grade students. For this purpose, the following research questions were constructed:

1) Are communication skills, problem solving skills, coping with stress skills, and self-worth development skills significant predictors of bullying behavior?

2) Are communication skills, problem solving skills, coping with stress skills, and self-worth development skills significant predictors of victim behavior?

3) Are communication skills, problem solving skills, coping with stress skills, and self-worth development skills significant predictors of filling?

4) Is there a significant difference between the female and male groups based on the theoretical model?

5) Is there a significant difference between the 7th and 8th grade student groups based on the theoretical model?

## **Methods**

### *Model*

Since the present study investigated the correlation between related variables, it was conducted with the correlational technique, a quantitative research method (Karasar, 2005). Correlational studies examine relationships between two or more variables (Fraenkel, Wallen and Hyun, 2012; Karasar, 2005). In this study, the correlation between levels of social emotional learning and coping with peer bullying was investigated. The study also tested whether there was a difference between the correlations based on gender.

### *Study Group*

The study group included 295 students attending a junior high school in Düzce province (Turkey) during the 2016-2017 academic year. One hundred forty participants were female and 155 were male. Forty students were seventh grade and 255 were eighth grade students.

### *Data Collection Tools*

Social Emotional Learning Skills Scale, developed by Kabakçı (2006) and Bullying Scale, developed by Kutlu (2005) were used in the present study.

**Social Emotional Learning Skills Scale (SELSS):** It is a four-point Likert-type scale including 40 items (Kabakçı, 2006) and developed to measure SEL skills of primary education second-tier students. (1- Completely inapplicable, 2- Inapplicable, 3- Applicable, 4- Completely applicable).

In the study, it was determined that the scale KMO (Kaiser-Meyer-Olkin) score was 0.897, the Bartlett test result was 7027.971, the Cronbach alpha ( $\alpha$ ) reliability coefficient was 0.88, and the test-retest reliability was 0.85. The scale included four factors and 40 items and it was determined that factor loads varied between 0.33 and 0.60 and the factors explained a high portion of the variance. The scale included four sub-dimensions. These are communication skills (9 items), problem solving skills (11 items), coping with stress skills (10 items), and self-worth development skills (10 items).

The lowest possible score in the scale is 40 and the highest possible score is 160. Low scale scores reflect inadequate SEL skills, while high scores indicate adequate SEL skills. Descriptive factor analysis conducted within the scope of validity tests demonstrated that the scale included four factors. The four-factor construct was tested with confirmatory factor analysis and it was found that the tested model had good fitness indices [ $\chi^2 = 1282.02$ ,  $sd = 727$ ,  $\chi^2/sd = 1.76$ ,  $GFI = .90$ ,  $AGFI = .89$ ,  $CFI = .96$ ,  $NFI = .92$ ,  $NNFI = .96$ ,  $SRMR = .049$ ,  $RMSEA = .036$ ]. Similar scales validity test showed that there were positive and significant correlations between four different scales that measure similar constructs and the SELSS. Furthermore, it was noted that the distinctiveness of all items between the lower and upper 27 percentiles was significant. The SELSS Cronbach's alpha coefficient was .88 for the total score and varied between .61 and .83 for the subscales and the test-retest reliability coefficient was .85 for the total score and varied between .69 and .82 for the subscales (Kabakçı, 2006). Additional evidence was provided for the adequacy of psychometric properties of the scale with the DFA results conducted for a second time in order to determine the factor structure of the scale with an item analysis conducted with a different dataset and at a different time (Kabakçı and Korkut Owen, 2010) (Chi-square:  $\chi^2 = 2264.09$ ,  $N = 431$ ,  $sd = 723$ ,  $\chi^2 / df = 3.13$ ,  $p = .00$ , Fitness Indices:  $RMSEA = .049$ ,  $GFI = .94$ ,  $CFI = .95$ ,  $AGFI = .93$ ,  $NFI = .91$ ,  $NNFI = .95$ ,  $SRMR = .053$ ).

**Bullying Scale (BS):** The scale, developed by Kutlu (2005), includes the dimensions of bullying, victim and enjoying life (filling items). The response options of the 19-item scale developed as a self-evaluation form are arranged as a 5-point Likert type scale ranging between "1-I completely disagree" and "5-I completely agree". Internal consistency coefficients of the sub-dimensions (bullying = 0.83, victim = 0.86, filling = 0.70) were found to be at predictive level in the analyzes. Three factors were tested with Confirmatory Factor Analysis. Findings indicated that the three-factor model demonstrated the best fitness statistics (Kutlu, 2005). The Croanbach alpha internal consistency coefficients of the Bullying Scale were examined for the study sample. The determined internal consistency coefficients were .82 for the victim subscale, .86 for the bully subscale, and .66 for the enjoying life subscale (filling items).

#### *Data Analysis*

The IBM SPSS 22 and AMOS 24 software was used to test the study hypotheses in order to determine whether the structural model was verified. It was determined as a result of the DFA conducted to verify whether the measurement instruments used in the study were valid for the study dataset that there was excellent model-data fitness in both scale subscales. Then, the "Sample Size", "Missing Data" and "Outliers" required for Structural Equation Modeling (SEM) were examined and "Multivariate normality", "Multi-linearity" and "Multicollinearity" assumptions were tested.

There are different recommendations for sample size, which is a requirement for SEM such as a minimum size of 200 (Kline, 2005),  $N > 50 + m$  ( $m$  = number of independent variables) (Tabachnick and Fidell, 2007), at least 10 times the number of the observed variables (VanVoorhis and Morgan, 2007), a significant probability level for the chi-square value in large samples (usually 200 and over) (Schumacker and Lomax, 2004) and the minimum sample size for the most likelihood method should be 100-150 (Hair, Black, Babin, Anderson and Tatham, 2006). In the present study, it was observed that the sample size hypothesis for structural equation modeling could be accepted since the sample size was 295.



Since the structural equation modeling is susceptible to missing data and outliers, whether there were missing data in the dataset was tested before the data analysis. Missing data and outlier analyses demonstrated that there was no missing data in the study group. Z scores were analyzed to determine the outliers and whether there were outliers beyond +3 and -3 was controlled. "Mahalanobis Distances" were calculated to determine the multivariate outliers. It was determined that there were no multivariate outliers and missing data in the study dataset.

Univariate and bivariate normality tests are used to test multivariate normality. In this study, the Kolmogorov Smirnov Test was applied for univariate normality. A significance level above .05 demonstrates that the normality is not achieved. When the KS test results do not demonstrate normality, the skewness and kurtosis coefficients are examined. A skewness between +1 and -1 indicates univariate normality. In the present study, the skewness was examined although the KS test result was insignificant (IB = -.53 PCB = -.93, SB = -.026, KDB = -1.113 ZR = 1.71, KR = -1.112 and DL = -1.189) and it was found that the skewness coefficient was within the +1 - -1 range, demonstrating univariate normality. Although the KDB, KR, ZR and DL variables were outside the +1 - -1 range, Q-Q diagrams demonstrated that the values were close to normality. The Q-Q diagrams are presented in the Appendix. For bivariate normality, the scatter diagram matrix was examined.

Multi-linearity is the linearity of the correlation between variable pairs and examination of the scatter diagram matrix constructed for bivariate normality demonstrated that there was linearity between the variable pairs.

Variance Inflation Factor (VIF) and tolerance values were examined to control the multicollinearity hypothesis (Cohen, Cohen, West and Aiken, 2003). In the study, it was found that (IB = -1.76 / .57 PCB = 1.83 / .54, SB = 1.44 / .70, KDB = 1.13 / .88 ZR = 1.24 / .80 KR = 1.15 / .87, DL = 1.18 / .85) VIF value was equal to or greater than 10 and the tolerance value was equal to or less than .10, demonstrating that there was no problem of multicollinearity.

## Findings

Correlations between the theoretical model variables and descriptive statistics on these variables are presented in Table 1.

Table 1. *Correlations between the theoretical model variables*

	IB	PCB	SB	KDB	KR	ZR	DL	X	SS
IB	1	,589**	,414**	,290**	-,231**	-,259**	,343**	3,09	0,49
PCB	,589**	1	,471**	,288**	-,224**	-,379**	,240**	3,15	0,51
SB	,414**	,471**	1	,124*	-,183**	-,365**	,026	2,46	0,47
KDB	,290**	,288**	,124*	1	-,308**	-,163**	,176**	3,42	0,50
KR	-	-	-	-	1	,462**	-,095	1,75	0,77

	,231**	,224**	,183**	,308**					
<b>ZR</b>	-,259**	-,379**	-,365**	-,163**	,462**	1	-,011	1,51	0,68
<b>DL</b>	,343**	,240**	,026	,176**	-,095	-,011	1	4,23	0,71

\*\*p<.01

\*p<.05

The correlation between the filling scores and coping with stress, bully and victim variables in the bullying scale was not significant as observed in Table 1 ( $p > .05$ ). The correlation between other variables was weak and moderately significant.

Once the relevant hypotheses are accepted, the constructed model was analyzed. Based on the analysis results, t values related to the significance of the constructed pathways in the model are presented in Table 2.

Table 2. *Findings on the Significance of the Constructed Model Pathways*

Path	Path Coefficient	t-value	p	Hypothesis
KR <--- IB	-.084	-1.246	.213	Reject
ZR <--- IB	.006	.107	.915	Reject
DL <--- IB	.277	4.806	.000	Accept
KR <--- PCB	-.056	-.804	.422	Reject
ZR <--- PCB	-.198	-3.628	.000	Accept
DL <--- PCB	.087	1.471	.141	Reject
KR <--- SB	-.093	-1.397	.163	Reject
ZR <--- SB	-.210	-3.986	.000	Accept
DL <--- SB	-.154	-2.709	.007	Accept
KR <--- KDB	-.269	-4.435	.000	Accept
ZR <--- KDB	-.054	-1.140	.254	Reject
DL <--- KDB	.065	1.253	.210	Reject

As seen in Table 2, the correlation between communication skills and victim and bully variables was not significant ( $p < .05$ ). In other words, communication skills are not a significant predictor of students' bullying and victim behavior.

However, it was observed that the communication skills significantly predict the filling dimension ( $p < .05$ ). On the other hand, it was determined that the problem-solving

skill predicts the bullying dimension significantly ( $p < .05$ ), while it failed to predict the victim and filling sub-dimensions significantly ( $p > .05$ ). \*\*\*

Coping with stress skill did not significantly predicted the victim dimension, while it was a significant predictor of the filling and bully dimensions ( $p < .05$ ).

It was observed that self-worth development skills significantly predicted only the victim sub-dimension ( $p < .05$ ).

After non-significant paths in the constructed model were excluded from the analysis and the model was reanalyzed. The path coefficients, t-values and significance levels obtained in the second analysis are presented in Table 3.

Table 3. *Findings on the Significance of Model Paths*

Path	Path Coefficient	t-value	p	R <sup>2</sup>
DL <--- IB	,401	6,724	.000	.134
DL <--- SB	-,140	-2,344	,019	-
ZR <--- PCB	-,234	-4,172	.000	.188
ZR <--- SB	-,204	-3,655	.000	-
KR <--- KDB	-,279	-5,429	.000	.095

When the direct correlation between the independent variables and the dependent variables were examined, it was observed that all were significant ( $t > 1.96$ ). When the path coefficients were examined, it was observed that a unit change in communication skills led to a .40 unit increase in filling dimension. A unit change in problem-solving skills resulted in a .23 reduction in bullying behavior. A unit change in the coping with stress skills led to a .20 reduction in bullying behavior and a .14 reduction in filling dimension. A unit change in self-worth development skills led to a .28 decrease in victim behavior.

Analysis of R<sup>2</sup> values demonstrated that communication skills, together with coping with stress skills explained 19% of the bullying behavior. Communication skills and coping with stress skills explained 13% of the filling behavior. Self-worth development skill alone explained 10% of victim behavior.

It was reported that standardized path coefficients have a weak impact if lower than  $|.10|$ , a moderate impact if close to  $|.30|$ , and a strong impact if higher than  $|.50|$  (Cohen, 1992). Accordingly, the highest impact on the consistency of interest variable was caused by self-control. The effects of other variables on related dependent variables were moderate.

Goodness of fit values for the theoretical model are presented in Table 4.

Table 4. *Theoretical Model Goodness of Fit Values*

Model	Model Fitness Indices							
	$\chi^2$	Sd	$\chi^2/\text{sd}$	RMSEA	GFI	AGFI	NFI	CFI

<b>Theoretical Model</b>	20.02	9	2.22	0.065	0.98	0.94	0.95	0.97
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The chi-square value ( $\chi^2(9) = 20.02$ ;  $p < .01$ ) of the constructed theoretical model was low and significant at the .01 level as shown in Table 3. The ratio of the chi-square value to the degree of freedom ( $\chi^2/sd = 2.22$ ) indicated that the model had a good fitness value ( $\chi^2/sd < 5$ ). When the other model fitness indices were examined, it was observed that RMSEA (.07) was less than .05; GFI (.98), AGFI (.94), NFI (.95) and CFI (.97) values were greater than .90. Based on these values, the constructed theoretical model demonstrated perfect fitness (Schermele-Engel, Moosbrugger, and Müller, 2003; Thompson, 2000).

Standard loads for the structural model confirmed by the analysis results are presented in Figure 2.

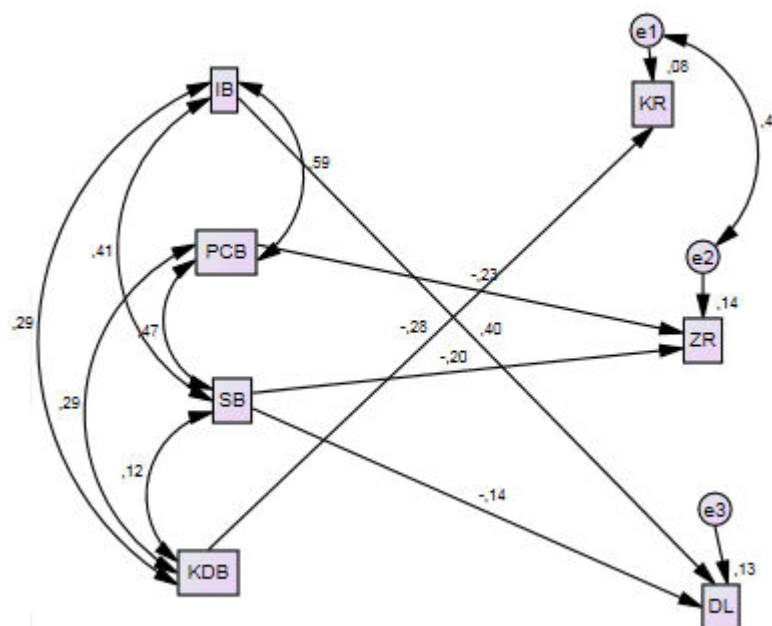


Figure 2. *Structural Model Standard Load Values*

In the next phase of the study, the structural equation model was tested based on the gender and grade level variables.

### ***Testing the model in terms of gender***

#### ***Structural Model Test (Female)***

Initially, the model goodness of fit values was investigated and presented in Table 5.

Table 5. *Structural Model Goodness of Fit Values for the Female Student Group*

Model	Model Fitness Indices							
	$\chi^2$	Sd	$\chi^2/sd$	RMSEA	GFI	AGFI	NFI	RFI
<b>Theoretical Model</b>	6.68	9	.74	.000	.99	.96	.96	.91

The model goodness of fit indices ( $\chi^2 = 6.68$ ,  $p < 0.05$ ;  $\chi^2 / df = .74$ ; GFI = 0.99; AGFI= 0.96; RMSEA=0.000 ; NFI=0.96; RFI=0.91) were acceptable according to Hu and Bentler (1999), Kline (2005), McDonald and Ho (2002), and Gefen, Karahanna and Straub (2003). Thus, in the next phase, the findings obtained in the structural model could be interpreted.

#### *Structural Model Hypothesis Tests (Female)*

The model verified for the whole group was tested for female student group. Path coefficients, t values and significance levels obtained for the model analysis are presented in Table 6.

Table 6. Findings on the significance of the paths for the female student group

Path	Path Coefficient	t	P	Hypothesis
DL <--- IB	.432	6.087	.000	Accept
DL <--- SB	-.121	-1.782	.075	Reject
ZR <--- PCB	-.216	-3.746	.000	Accept
ZR <--- SB	-.077	-1.293	.196	Reject
KR <--- KDB	-.220	-3.408	.000	Accept

When the model variables were tested for the female student group, the hypothesis constructed to test the impact of communication skills on the filling dimension was accepted ( $\beta = .432$ ,  $p < .05$ ), while the hypothesis related to the impact of coping with stress skills was rejected ( $\beta = .121$ ,  $p > .05$ ). \*\*\* The hypothesis constructed to test the impact of the problem-solving skills on bullying was accepted ( $\beta = .216$ ,  $p < .05$ ), while the hypothesis related to the impact of coping with stress skills was rejected ( $\beta = -.077$ ,  $p > .05$ ). Finally, the effect of self-worth development skill on victim dimension was accepted ( $\beta = -.220$ ,  $p < .05$ ).

Model path coefficients on the tested path model are presented in Figure 3. The significance of these findings is discussed with the model findings tested for males in the conclusion section.

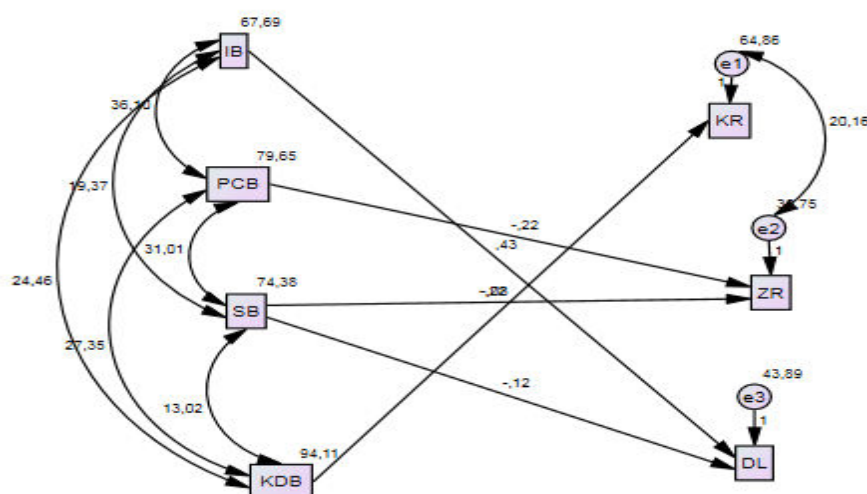


Figure 3. *Structural model for female student group*

*Structural Model Test (Male)*

Initially, the model goodness of fit values was investigated and presented in Table 7.

Table 7. *Structural Model Goodness of Fit Values for the Male Student Group*

Model	Model Fitness Indices							
	$\chi^2$	Sd	$\chi^2/\text{sd}$	RMSEA	GFI	AGFI	NFI	IFI
<b>Theoretical Model</b>	27.156	18	1.509	.042	.98	.92	.94	.98

The model goodness of fit indices ( $\chi^2 = 27.156$ ,  $p < 0.05$ ;  $\chi^2/\text{df} = 1.509$ ; GFI = 0.98; AGFI= 0.92; RMSEA=0.042; NFI=0.94; IFI=0.98) were acceptable according to Hu and Bentler (1999), Klem (2000), Kline (2005), McDonald and Ho (2002), and Gefen, Karahanna and Straub (2003). Thus, in the next phase, the findings obtained in the structural model could be interpreted.

*Structural Model Hypothesis Tests (Male)*

The model verified for the whole group was tested for male student group. Path coefficients, t values and significance levels obtained for the model analysis are presented in Table 8.

Table 8. *Findings on the significance of the paths for the male student group*

Path	Path Coefficient	t	P	Hypothesis
DL <--- IB	,268	3,707	.000	Accept
DL <--- SB	-,129	-1,525	,127	Reject
ZR <--- PCB	-,144	-2,323	.020	Accept
ZR <--- SB	-,235	-3,251	,001	Accept
KR <--- KDB	-,385	-4,491	.000	Accept

When the model variables were tested for the male student group, the hypothesis constructed to test the impact of communication skills on the filling dimension was accepted ( $\beta=.268$ ,  $p<.05$ ), while the hypothesis related to the impact of coping with stress skills was rejected ( $\beta=-.129$ ,  $p>.05$ ). \*\*\* The hypothesis constructed to test the impact of the problem-solving skills ( $\beta=-.144$ ,  $p<.05$ ) and coping with stress ( $\beta=-.235$ ,  $p>.05$ ) on bullying were accepted. Finally, the effect of self-worth development skill on victim dimension was accepted ( $\beta=-.385$ ,  $p < .05$ ).\*\*\*



Model path coefficients on the tested path model are presented in Figure 4.

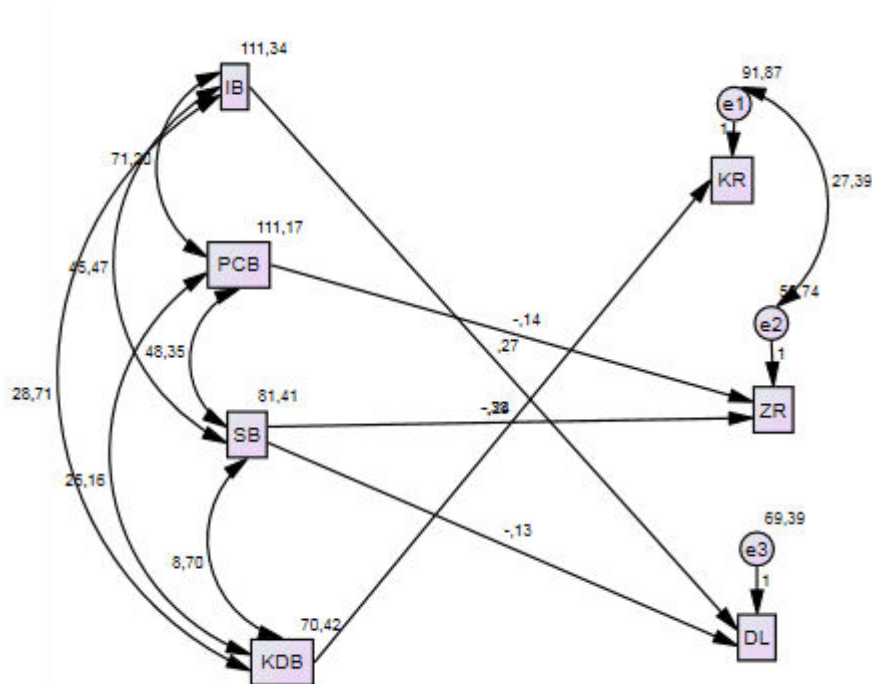


Figure 4. *Structural model for male student group*

## Discussion and Conclusion

Effective social problem solving requires a definitive assessment of the situation. Social emotional skills are the main skills in coping with the bullying problem. Bullies are individuals who possess ideas that support violent behavior and do not prefer non-violent strategies in problem-solving (Bosworth et al., 1999). Decision-making skills enable children to calm down when they feel anger, solve conflicts in relationships, and make ethical and safe choices in a respectful manner.

The finding that problem solving skills are effective on bullying obtained in a study by Wilton, Craig and Pepler (2000) is consistent with the results of the present study which determined that problem solving skill was a significant predictor of bully dimension and one unit increase in problem solving skill would reduce bullying behavior by .23.

Victims have lost their active social problem-solving skills. The vast majority prefer to utilize passive strategies and evade instead of using problem solving strategies (Wilton et al., 2000). In the present study, it was determined that the self-worth that aims the individual to recognize her or his emotions, interests and strengths, to assess self-competence in a realistic manner and to improve self-esteem is a significant predictor of victim sub-dimension. One unit change in self-worth development skills led to a .28 decrease in victim behavior. It was found that the impact of self-worth development skills on victim dimension for female students was  $\beta = -0,220$  ( $p < .05$ ), and the impact of self-worth development skills on victim dimension for male students was  $\beta = -.385$  ( $p < .05$ ).

In the present study, the findings that the problem-solving skill was effective on bullying among the females ( $\beta = -.216$ ,  $p < .05$ ) and the effects of the problem solving skill ( $\beta = -.144$ ,  $p < .05$ ) and coping with stress skills ( $\beta = -.235$ ,  $p > .05$ ) on bullying among the males were consistent with the findings of the study conducted by Wilton, Craig and Pepler (2000).

In every race, social class, culture and international environment and at every age, males exhibit a higher rate of bullying behavior when compared to females (Graham, 2016). Males are more likely to be the victims of bullying when compared to females (Pepler, Jiang, Craig & Connolly, 2008).

Previous studies demonstrated that 10% and 30% of children face bullying, and this rate increases during the junior high school (Hazler, 1996; Rios-Ellis, Bellamy & Shoji, 2000).

Bullying increases and reaches the peak levels during early adolescence and begins to decrease during late adolescence. It is considered that this is due to the fact that learning avoidance, advanced mental skills, improved equality in peer structures and developed identity perception, improved experiences contribute to the reduction of bullying (Gordon, 2017).

### **Suggestions**

It would be highly productive for field specialists to design curricula that would improve social emotional competency, support healthy development of children, significant in prevention of bullying, and focus on empathy, emotion management, and social problem solving. It is also very important to emphasize assertiveness training programs, which are important in providing assistance for bullying victims and their adaption to school programs. Instruction of these skills does not only lead to the creation of a safe and positive climate at schools, but also generate an environment suitable for students with high readiness for learning.

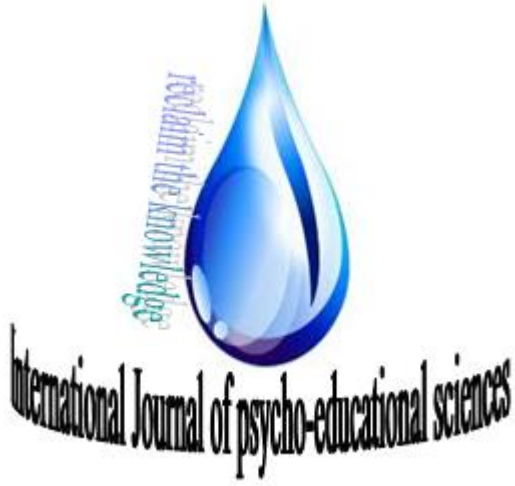
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## **A Study on Developing the Revised Version of the “Conflict Resolution Behavior Determination” Scale (CRBDS)**

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## Abstract

*Conflict resolution is the process where parties come together and exert efforts for a solution with the aim of ending an existing conflict. In the current study, the aim was to test the reliability and validity of the revised version of the Conflict Resolution Behavior Determination Scale (CRBDS) designed to determine the conflict resolution behavior of the middle school students. The sample of the research consisted of 997 6<sup>th</sup> grade students studying at 3 different middle schools. Analysis results indicated that CRBDS consisted of two-dimensional and 17 items. Two-factor model developed at the end of the CFA was tested and it was detected that the obtained fit indices were considerably better. In addition, concurrent validity results showed that the relationships between CRBDS and similar scales was significant. Cronbach Alpha analysis was done for reliability test. As a result of the reliability and validity tests, it was seen that CRBDS consisted of two subscales and 17 items and it was suitable for application.*

**Keywords:** Conflict, conflict resolution, scale, aggression, problem solving.

## Introduction

Conflict resolution is defined as the conflicting parties' intention or effort in doing their best to resolve the conflict by coming together (Jandt & Pedersen, 1996; Van De Vliert, 1997). In the literature, when we examined the conflict resolution theories, we can see mostly; the Dual Concern Theory (Pruitt & Rubin, 1986; Rahim, 1983) and the Social Interdependence Theory (Johnson & Johnson, 1989; Johnson & Johnson, 2005). The roots of the Dual Concern Theory based on the Blake and Mouton's model and Deutsch's the Cooperation and Competition Theory. In this theory, conflict resolution is determined according to giving importance to aim or relationship. Each orientation consists of independent and different combinations of how to high or low degree of self or others. These are described as; forcing, avoiding, obliging, compromising, and problem solving (Deutsch, 1994; Johnson, & Johnson, 1996; Rahim, 1983). The Social Interdependence Theory based on, Gestalt Psychology, Kurt Lewin's the Field Theory and Morton Deutsch's the Cooperative and Competitive Theory (cited in Johnson & Johnson, 2007). In the Social Interdependence Theory, conflicting parties' reaching their goals relies on the acts of the other parties (Deutsch, 1994, Deutsch, 2000; Johnson & Johnson, 1989; Johnson & Johnson, 2005). Interdependence comes out in two different ways. In positive interdependence, parties share the conviction that they have to cooperate with the other parties in order to reach their goals. They strive in finding a solution in which both parties will win. In negative interdependence, the parties believe that their success relies on the failure of the others. Therefore, they prevent the others from reaching their goals in order to achieve their own goals. We can mention a third type, in which there is no interdependence. The dominant perception is that there is no link between an individual's reaching his own goal and the acts of the other party. While a supportive interaction is experienced as a result of positive interdependence, an adverse interaction is experienced in negative interdependence. There is no interaction when there is no interdependence. Research results showed that if the strategies based on cooperativeness such as problem solving, compromising, and obliging, related to positive outcomes on the other hand, competitive strategies such as, forcing and avoiding, related to negative outcomes (Rahim, Magner, & Shapiro, 2000). Positive interpersonal relationships effects psychological health, life satisfaction (Reis & Collins, 2004), and well being (Lansford, 2000). Moreover, in schools, cooperativeness with school mate effects positively to self esteem (Harter, 1994), school competence (Cauce, 1986) and prosocial behaviors of person. On

the contrary, negative behavior like aggression decreases when the cooperative relation was being accepted (Buhrmester, 1990). In addition to these, increasing in the problem solving skill effect decreasing the aggressive behaviors of the students (Arslan, Hamarta, Arslan, & Saygın 2010). When there was a competitiveness in interpersonal relationship, there were aggression, isolation, distrust and antagonism (Johnson & Johnson, 2007). Some research results showed that, when students experience conflict with their peers, some of them prefer to use either power related strategies or withdrawing (Collins & Laursen, 1992). If the bully behavior exhibited by some counterparts that ignore or endure that (Cowie, 2000). And the male students behave more aggressive than the female students (Yavuzer, Karataş & Gündoğdu, 2013). According to cognitive developmental theories, while ones' get older he/she become more competent to understand the other person's view of reference and improve the conflict resolution ability (Selman, 1980). Cognitive development theories claimed that the cognitive development continues at the end of the adolescent (Leyva & Furth, 1986).

Conflict Resolution Behavior Determination Scale (CRBDS) was designed to have two subdimensions as "aggression" and "problem solving" on the basis of positive and negative interdependence in the conflicts encountered in interpersonal relationships. It was thought that students exhibiting aggressive behavior in the conflicts encountered in the school had negative interdependence while students attempting to find a solution serving the desires of both parties had positive interdependence. In this scope, CRBDS which is scale directed at the middle school students, was prepared by assuming that students can react positively (problem solving) and negatively (aggression) in the conflicts that they encounter in their interpersonal relations.

When literature is examined, it is seen that some conflict resolution scales have been developed for determining students' behavior at school. The scale developed by Johnson, Johnson & Dudley (1992) is "Conflict Scenario Written Measures". In this scale conflict scenarios are given to students and ask them to write how they behave if they face with these conflict situations. Another scale developed by Johnson and Johnson (1995) is "What Does Conflict Mean to me?" and its objective is to determine the attitudes of the individuals towards conflict. In this scale, the students are asked to write the first words coming to their minds when "conflict" is mentioned. Afterwards, the words are categorized as positive (positive conflict resolution), negative (unresolved or negative conflict resolution) and neutral (neither positive nor negative).

"Conflict Resolution Scale" is that the other scale was developed in this field (Smith, Daunic, Miller, & Robinson (2002). This scale consists of two sections. In the first section, the need for solving the conflict is assessed while the second section is related to the management of conflict situations. The originally named as "How Do You Deal with Conflict? Conflict Resolution Questionnaire" was adapted into Turkish by Taştan (2004) with the name of "Conflict Resolution Scale". While there are 10 subscales in the original version, there are only two subscales as positive and negative in the Turkish version. When the scales developed by the Turkish researchers are examined, "Conflict Resolution Skills Scale" was developed by Sarı (2005) for the fifth grade students. The scale consists of the subscales of integration, abstention, domination and submission. When the scales developed for the adults are examined, "Conflict Tendency Scale" developed by Dökmen (1986) and "Conflict Resolution Scale" developed by Akbalık (2001) come into prominence. Other scales developed for adult and adolescent were, Interpersonal Problem Solving Inventory (Çam & Tümkaya, 2008) and Interpersonal Conflict Resolution Approach Scale developed by Goldstein and adopted to Turkish form by Aslan (2005).

As it is seen in the literature review, there is not a sufficient scale developed for determining the conflict resolution behaviors of the middle school students. However, it is of great importance to determine how students resolve their conflicts within the scope of the guidance activities aimed at preventing the acts of violence in the schools. Furthermore, it is assumed that it will contribute to testing whether the programs to be prepared will help the students acquire the positive conflict resolution skills. The aim of this study is to conduct the reliability and validity tests of the revised version of the “Conflict Resolution Behavior Determination Scale” designed to determine the conflict resolution behaviors of the individuals in the interpersonal relations. To this end, four different sample groups were studied.

## **Methods**

### *Study Group*

A sample of the research consisted of 997 students studying in the 6<sup>th</sup> grades of three different middle schools in the city center of Aydın. The first group, 265 (53.8%) of the participants were female, 228 (46.2%) were male, total 493 participants. The age range of participants was 10 to 13 and the mean was 12.06 (SD= .41). The first group was used for exploratory factor analysis and parallel analysis. The second group, 232 (48.9%) of the participants were female and 240 (50.6%) were male and 2 students did not specify the gender, total 474 participants. The age range was 11 to 14, the mean was 12 (SD= .45). Data which was getting from second group was used for confirmatory factor analysis. The last group, 17 (56.7%) of the participants were female and 13 (43.3%) were male, total 30 participants. The age range was 11 to 14, the mean was 12.17 (SD=.53). The last group was used for concurrent validity. For analyzing Cronbach Alpha, both first and second group data were used.

### *Data Collection Tools*

Concurrent validity analysis was carried out in developing the Conflict Resolution Behavior Determination Scale (CRBDS). The correlation coefficients between the subscales of CRBDS and Aggression Scale and Conflict Resolution Scale were used.

#### *Aggression Scale*

In order to determine the aggressive behaviors of the adolescents, Aggression Scale was developed. It was adapted into Turkish by Kuzucu and Özdemir (2013). The explanatory factor analysis revealed that the scale had two subscales. 9 items of the scale consisting of 11 items in total constitute the subscales of “physical and verbal violence” and explain 40.6% of total variance. The remaining 3 items constitute the subscales of “anger” and explain 5% of total variance. The Cronbach Alpha coefficient was found at .87 and .88, respectively.

#### *Conflict Resolution Scale*

The originally named as “How Do You Deal with Conflict? Conflict Resolution Questionnaire” was adapted into Turkish by Taştan (2004) with the name of “Conflict Resolution Scale”. While the scale originally consisted of 10 subscales, the Turkish version included only two subscales as positive and negative. Internal consistency coefficients of the first and the second subscale of the scale were found as  $r=.82$  and  $r=.73$ , respectively. The internal consistency coefficient of the whole scale was found to be  $r=.73$ .

## *Process*

### *First developmental process of CRBDS*

In order to determine the conflict situation, a group of students who were in 6<sup>th</sup>, 7<sup>th</sup>, and 8<sup>th</sup> grades, were asked to write their conflict and conflict resolution behavior with their peer, teacher and the other stuff in the classroom, in the garden or in the canteen. And then based on literature and students' response, 64 items were written. Conflict resolution behaviors, such as; violence, aggression and withdrawing which were taken as negative subdimensions, and problem solving which were taken as positive subdimension. For the content validity, opinions of the experts working in the field of Psychological Counselling and Guidance in the Department of Psychological Services in Education in Ankara University were received. They were asked to evaluate each item according to content and expression form of the items and also they can add if it was necessary. After correcting the items according to experts suggestions, the scale was applied to a group of students in the 6<sup>th</sup>, 7<sup>th</sup>, and 8<sup>th</sup> grades.

For construct validity, principal component analysis and exploratory factor analysis with varimax rotation were used. The analysis showed that the scale has two basic subdimensions which were aggression and problem solving. The results illustrated that each item had a load value above .40. Item analysis was carried out in order to determine the distinctiveness levels of the items in terms of conflict resolution behaviors, which revealed that total item correlations were above .30. Reliability of CRBDS was tested with test-retest reliability analysis and the reliability values of the subdimensions of aggressiveness and problem solving were found as  $r = .64$  and  $r = .66$ , respectively. Internal consistency of CRBDS was analyzed through Cronbach Alpha and the internal consistency coefficients of the scale were found to be  $r = .85$  and  $r = .83$  for the subdimensions of aggressiveness and problem solving, respectively. First developmental study's results showed that, CRBDS has two factors which were aggression (swearing, fighting, threats, silence attack) and problem solving (compromise, cooperation). It was Likert type scale (Koruklu, 1998).

### *A process of developing the revised version of the scale*

A sample, who were used to the reliability and validity of the revised version, consisted of 997 students studying in the 6<sup>th</sup> grades of three different middle schools in the city center of Aydın. Researcher gets research permission from Education Minister of Aydın. Data which was getting first group (493 participants) were used exploratory factor analysis and parallel analysis, a second group (474 participants) was used to confirm the model (Confirmatory factor analysis). The last group (30 participants) was used for concurrent validity analysis. Scales were given as a group of students in their school time. While getting the data the school counselor helped the researcher.

### *Data Analysis*

In the analysis of the data, Lisrel 8.54 (Jöreskog, & Sborn, 2001) and SPSS programs were employed. Exploratory factor analysis (EFA), parallel analysis (PA), the confirmatory factor analysis (CFA) was examined. Besides, concurrent validity test was conducted. Cronbach Alpha was examined for the internal consistency within the scope of reliability study of the revised version of CRBDS.

## Findings

### *Results of the Exploratory Factor Analysis and Parallel Analysis*

In order to determine the plenary ratings of the correlation between variables and the suitability of the sample, Kaiser- Meyer-Olkin (KMO) was used (Alpar, 2013; Tabachnick & Fidell, 2007). It was used to compare observed partial correlation coefficients with the size of the magnitude of the correlation coefficients (Kalaycı, 2006). KMO value varies between 0 and 1. If the partial correlation comes close to 0, KMO value converges to the 1. The meaning of the value of 1 for KMO, each variable in the scale can be estimated perfectly by the other variables (Alpar, 2013). While KMO value smaller than .50, factor analysis can not use (Çokluk, Şekercioğlu, & Büyüköztürk, 2012). The current study analysis results showed that the value of KMO was .87. If the KMO value is between .80 and .90, it is accepted as “good”(Alpar, 2013; Çokluk, Şekercioğlu, & Büyüköztürk, 2012). Bartlett Test shows that the data has a multivariate normal distribution (Tavşancıl, 2005). When the significance value smaller than .50, *R* correlation or covariance matrix is different from the unit matrix (Şencan, 2005). The current study, Bartlett’s Test of Sphericity value was 2609.99 ( $p < .000$  ).

In order to determine the components or factors of the variables, Eigenvalue, scree plot and Horn’s parallel analysis technique can be used (Erkuş, 2012; Çolakoğlu & Büyükekşi, 2014). In the present study, the analysis results of Eigenvalue showed that the scale has six factors and their Eigenvalue was bigger than 1. While, first factor has 23%, second factor has 10% variance and their total variance were 33%, the other four factors have 6% third factor, 6% fourth factor, 5% fifth factor and 4% sixth factor, respectively. While considering the number of factors, it is important that the factor’s contribution of the total variance (Çokluk, Şekercioğlu, & Büyüköztürk, 2012). The other way of determining the number of factors is scree plot. The scree plot results illustrate that the scale has two clear factors (Figure 1)

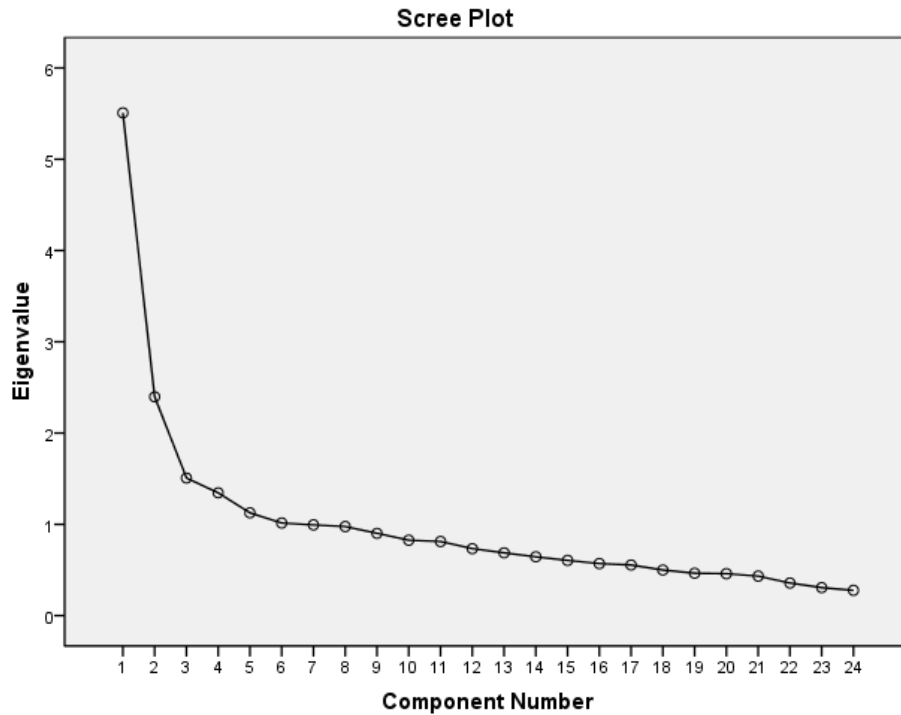


Figure 1. *Scree Plot*



The other technique for determining the factor number of the scale was PA. The comparison between Eigenvalues of EFA and Eigenvalues of PA results was seen in the table 1. It was seen in table 1 that, the Eigenvalues of EFA in the two factors higher than Eigenvalues of PA results. If the Eigenvalue of EFA is higher than the Eigenvalue of PA, the factor structure is proper and if it is lower, the factor structure is improper (Ledesma & Valero-Mora, 2007). In the first two dimensions showed a strong efficacy at the .05 significance level but the third one didn't reach competence. By reaching this conclusion that the EFA process has been initiated.

Table 1. *The comparison of EFA Eigenvalues and PA Eigenvalues results*

	<b>EFA Eigenvalues</b>	<b>PA Eigenvalues</b>	<b>Decision</b>
I.Factor	5.22	1.53	Accept
II.Factor	2.34	1.44	Accept
III.Factor	1.11	1.25	Reject

The Eigenvalues variance, scree plot and PA results showed that the scale has two factors. Since the scale was designed in a two-dimensional structure, it was analyzed as two factors in the EFA. As it is more appropriate to select the items with factor loads higher than .45 in EFA (Büyüköztürk, 2005), the items (2, 3, 4, 5, 6, 9 and 11) having load values lower than .45 and taking the load value in the two factors and the difference in the two is greater than .10, were taken out of aggression and problem solving subscales of the scale. The analysis was repeated with the remaining 17 items. The item factor load values of the subscales and item total correlation of the scale are given in Table 2.

Table 2. *Factor structure of CBRS and item analysis*

<b>Items</b>	<b>Aggression</b>	<b>Problem Solving</b>	<b>Item Total Correlation</b>
	<b>Factor Load</b>	<b>Factor Load</b>	
Item 17	<b>.81</b>	.13	.74
Item 13	<b>.79</b>	.10	.71
Item 19	<b>.77</b>	.14	.70
Item 15	<b>.73</b>	.10	.64
Item 23	<b>.72</b>	.19	.65
Item 7	<b>.69</b>	.12	.61
Item 21	<b>.67</b>	.18	.60
Item 1	<b>.61</b>	.06	.51
Item 20	.09	<b>.60</b>	.45
Item 24	.08	<b>.59</b>	.45
Item 8	.02	<b>.59</b>	.42
Item 12	.03	<b>.58</b>	.42
Item 18	.08	<b>.58</b>	.43
Item 22	.20	<b>.56</b>	.44
Item 14	.14	<b>.56</b>	.43
Item 16	.11	<b>.53</b>	.40
Item 10	.21	<b>.51</b>	.40

Table 2 shows that, item 17, 19, 13, 23, 15, 21, 1, and 7<sup>th</sup> the items referred to “Aggression” which was accepted as first factor; item 24, 20, 8, 14, 12, 22, 18, 10, and 16<sup>th</sup>. the items referred to “Problem Solving” which was accepted as the second factor. The item-total correlations for all items were above .40. As for the variance explained by the scale, the total variance explained by the scale was found to be 43.55%, which comes



from 30.18% for the first factor or “Aggression” and 13.37% for the second factor or “Problem Solving”.

*Findings related to the Validity Tests of CBRS: Results of the Confirmatory Factor Analysis*

CFA of the scale was carried out with Lisrel 8.3 program (Jöreskog & Sörbom, 1993). CFA assesses the conformity degree between the actual variables and the theoretical variables (Sümer, 2000). In line with the model, the hypothesis that the items would be explained by two factors and 8 items would be under the factor of aggression while the remaining 9 items would be under the factor of problem solving was tested. The CFA confirmed the two-factor structure of the scale in terms of the Chi-square value ( $\chi^2 = 314.64$ ,  $n = 474$ ,  $df = 118$ ,  $\chi^2/df = 2.67$ ,  $p = .000$ ) and the values of fit index (RMSEA = .059, GFI = .93, CFI = .96, AGFI = .93, NFI = .93, NNFI = .95, SRMR = .051). The values of fit index given by the analysis demonstrated a good fit between the model and the observed data (Şimşek, 2007). In the table 3, standard Lambda,  $t$ , standard error, and  $R^2$  values were given.

Table 3. Items, Standard Lambda ( $\lambda$ ),  $t$ ,  $se$  and  $R^2$  values

Factor	Items	$\lambda$	$t$	s.e.	$R^2$
Aggression	Item 17	.81	20.54	.58	.66
	Item 13	.74	17.99	.86	.55
	Item 19	.71	16.98	1.11	.51
	Item 15	.71	16.92	.75	.50
	Item 23	.61	13.90	1.10	.37
	Item 7	.62	14.21	1.08	.38
	Item 21	.66	15.41	.81	.44
	Item 1	.48	10.44	.99	.23
Problem Solving	Item 20	.49	10.02	1.47	.24
	Item 24	.53	10.83	1.21	.28
	Item 8	.40	8.06	.92	.16
	Item 12	.49	9.97	.82	.24
	Item 18	.58	12.22	1.11	.34
	Item 22	.56	11.66	1.00	.31
	Item 14	.52	10.71	.86	.27
	Item 16	.51	10.55	1.09	.26
	Item 10	.51	10.40	.96	.26

When table 3 considering, standardized parameter values were between .48 - .81 for aggression, and between .40 - .58 for problem solving. And also, it was seen that  $R^2$  values changed between .23 - .66 in aggression and .16 - .34 in problem solving dimension. In addition,  $t$  values were between 8.06 and 20.54 and statistically significant ( $p < .05$ ). As a sum, results of CFA showed that the adequate fit between hypothesis model is reached as a result of exploratory factor analysis and data support the validity of CRBDS.

The relationship between the scores of the subscales of the CRBDS and the scores of the similar scales was analyzed for concurrent validity. Aggression and Conflict Resolution Scales were used for the concurrent validity of CRBDS. Relation coefficient is

calculated as .57 between aggression subscale of CRBDS and problem solving; .45 between problem solving subscale and CRS/P ( $p < .05$ ).

#### *Results related to Reliability Tests of CRBDS*

Cronbach Alpha internal consistency coefficient was calculated within the scope of the reliability test of the scale. Cronbach Alpha internal consistency coefficient was calculated two times with the data obtained from both the first group (474) and the second group (493). Results are given in Table 4.

Table 4. *Internal Consistency Coefficients*

CRBDS	Internal Consistency <i>n</i> = 474	Internal Consistency <i>n</i> = 493
Aggression	.87	.84
Problem Solving	.75	.75

\* $p < .01$

As is seen in Table 4, internal consistency values were higher than .75 for two groups of CRBDS are statistically significant ( $p < .01$ ).

#### **Discussion and Conclusion**

In this study, reliability and validity tests of the revised version of CRBDS were carried out. Item factor loads and common factor variance values were adequate load for measuring the conflict resolution (Hair, Black, Babin, Anderson, & Tatham, 2006). In order to consider the number of components eigen values, scree plot and parallel analysis, which is an important technique for determining the number of factors (Thompson & Daniel, 1996), were used (Erkuş, 2012; Çolakoğlu & Büyükeksi, 2014). Results showed that the scale has two factors. Also, PA results, values for two components were lower than the EFA results values. That means, two components of the scale were adequate (O'Connor, 2000). It was seen that fit index values of CRBDS obtained at the end of the CFA analyses were at the desired level. The studies conducted so far report that GFI, AGFI, NFI, NNFI and CFI values should be above .90 and additionally, RMSEA and RMR values' being lower than .10 is indicative of model's compliance with the actual data (Marsh, Balla, & McDonald, 1988; Tabachnick & Fidel, 2007). The fact that GFI, AGFI, NFI, NNFI and CFI values found in this study were above .90 and RMSEA and RMR values were rather below .10 may indicate that the two-dimensional structure of CRBDS has a good fit for this group. Accordingly, CRBDS was confirmed by the subscales of aggression and problem solving where positive and negative approaches theoretically put forward in problem solving were represented and was compatible with the results of EFA. Lester and Bishop (2000) reported that the result of the structure validity analysis should reflect the original-set conceptual framework and this study met the desired criterion. According to the obtained findings, CRBDS was confirmed to be a 17-item scale consisting of the subdimension of aggression and problem solving.

It is seen that item-load values of CRBDS vary between .81 and .61 for the first factor of the revised version and between .60 and .56 for the second factor of the revised version. It is reported in the literature that the factor load values of the items' being above .40 shows that these items are "very good" (Tabachnick & Fidel, 2007) and accordingly, we can state that the items of CRBDS are very good. In addition to the structure validity test of the scale, the concurrent validity test was carried out as well. Two different scales (CRS and AS) were used in relation to two subscales of the scale. When the obtained results were evaluated, it was detected that there was a significant relationship between the

subscales of CRBDS and similar scales. Considering the coefficients of relations, it was seen that a relation existed between the AS and the “subscales of aggression” at the level of .57 and between CRS/positive factor and the “subscale of problem solving” at the level of .45. As a conclusion, CRBDS has a good level of relation with similar scales (Tabachnick & Fidel, 2007).

Within the scope of the reliability test, internal consistency analyses were carried out. It was seen that Cronbach Alpha coefficients calculated with two different data sets were sufficient (Aggression; .87; .84; Problem Solving; .75; .75  $n=474$  and  $n=493$ ). A high internal consistency in the scale demonstrates that the items of CRBDS are completely consistent and it is evaluated as an indicator of structural validity (Şencan, 2005). These values are deemed sufficient for the reliability (Büyüköztürk, 2005).

As sum, when the results of the current study were evaluated, CRBDS has 17 items and two factors (aggression and problem solving) and has appropriate psychometric properties for using to determine the conflict resolution behavior exhibited in the interpersonal conflicts. Also, it was Likert style scale (EK 2). CRBDS, expected to fill an important gap in the literature, can be used for the violence prevention program to determine students' behaviors. Particularly, school counselor and teacher make use of the scale for determining aggressive students and in order to test the effectiveness of prevention programs. The scale has 17 items which provide ones' to apply it easily, increases usefulness.

The limitations of this study may result from the fact that the sample consisted of only the 6<sup>th</sup> grade students studying in a school located in a city in the west of Turkey. Reliability and validity studies can be repeated with different samples and different culture.

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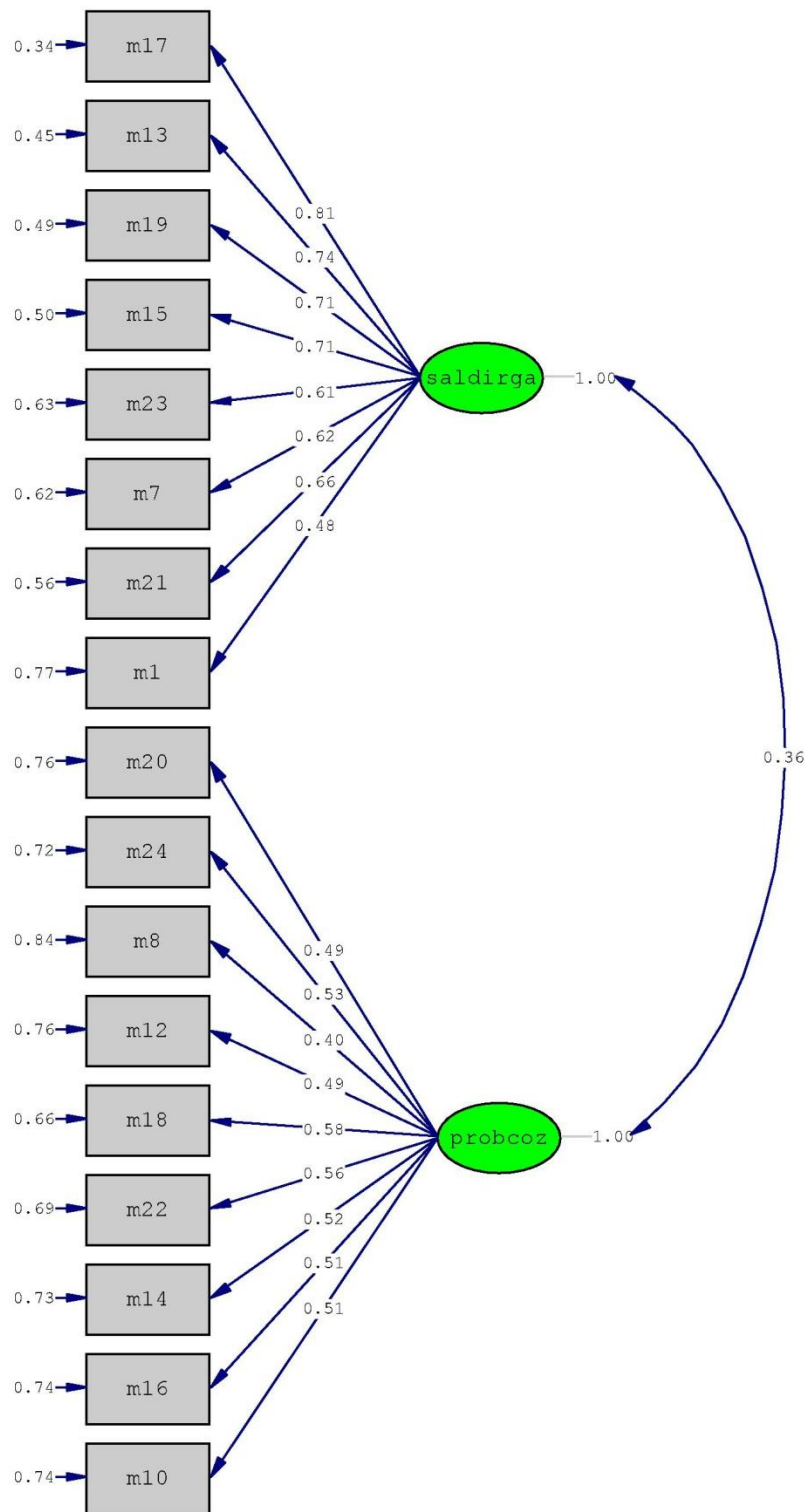
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Chi-Square=314.64, df=118, P-value=0.00000, RMSEA=0.059

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