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Developing educational communicative effectiveness of a peer relationship scale

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In reviewing existing literature, scales that deal with peer relations' communicative effectiveness dimension within an educational context were not found. The purpose with this research was to develop a scale for communicative effectiveness of peer relationships for students. A total of 670 students from public/private high schools in Northern Cyprus were selected for this purpose. Using the high school education system in Northern Cyprus, results of scale validity and construct validity tests successfully validated the instrument for "communicative effectiveness of friend relationships." Cronbach's alpha coefficient of 0.835 confirmed the validity and reliability of the instrument used in the study. From the results of the exploratory factor analysis, this research provides an instrument with 10 different dimensions to predict the educational communication effectiveness of students. The study validated and loaded 10 of the 42 items. As a result, the findings demonstrate that the peer interaction scale developed in this study was appropriate for gauging high school students' overall communicative effectiveness.

Keywords: communication; Cyprus; effectiveness; high school; relationship

Introduction

Through socialisation, individuals continuously develop and change throughout their lives and can thus be called social beings. In this context, studies indicate that individuals experience positive mental health and psychosocial development when they are socially active within their families as children (Al-Bataineh, Brenwall, Stalter & York, 2019; Sahmurova, Arikan, Gursesli & Duradoni, 2022). Research emphasises that peer relations and the way they occur are fundamental in children's and adolescents' psychosocial and educational development (Aydin, 2019; Gokalp, 2019; Veiga, 2013). However, during adolescence, the family is replaced by friends, and hence friendship becomes the most crucial part of the person's social development and changes throughout life (Cotterel, 2007). Demir and Urberg (2004) argue that peers, especially in adolescence, allow youngsters to experience and cope with the anticipations and difficulties in friendship and support their socialisation. To a great extent, youngsters learn problem-solving through their friends during adolescence.

Juvoven, Espinoza and Knifsend (2012) suggest several dimensions of peer relations, such as the features of close friendships (individual characteristics, ideals, and behaviour) where the peer group is seen as a context where activities and values are shared (such as classroom colleagues). Juvoven et al. (2012) also hint that the channels of selection of friends, the influence of friends, the quality of friendships, and the type of friendship support (academic or emotional) are linked to academic engagement and extracurricular involvement in schools. Conversely, research by Demanet and Van Houtte (2012), Shapka and Law (2013), and Veiga (2013) highlight characteristics such as the number of friends, sense of identification, and peer support. Moreover, while preparing the teaching outcomes of courses, teachers ought to prepare a program about teaching techniques, materials, and methods appropriate to the course (Ramnarain & Malope, 2023).

Serrano (1984) defines friendship as two or more individuals who are accessible to each other in case of need, who are reliable, who share a significant part of their lives, and who protect each other until a resolution is found. Hay (2005) defines friendship as a socialisation process that develops depending on the ability to pay attention, control feelings, retain instincts, discover significance among cause-and-effect relations, as well as language skills. Barton and Cohen (2004) define friendship as a relationship between individuals who require mutual communication, who can be reached when needed, and who are volunteers and confidants. Cotterel (2007) defines friendship as a person who knows when they are required by the other person and who helps instantly without being asked.

Developing communication skills is extremely important, especially for high school students. Some of the basic communicative skills to be developed include active listening, clear and concise expression, empathy, body language, conflict resolution skills, group work, receiving and giving feedback, and the use of technology (Brownell, 2012; Decety & Jackson, 2004). Studies of high school students' communication in recent years have mostly concentrated on their usage of social media (Kaban, 2021), face-to-face communication skills (El Khashab, 2023), the effects of digital communication tools (Dridi, 2023), and their social interactions.

Furthermore, the social and emotional well-being of high school students is greatly influenced by their friendships. These relationships have long-term linkages and involve several significant elements, including social development, emotional support, communication skills, conflict resolution, identity formation, grouping and social dynamics, interaction, and influence (Gifford-Smith & Brownell, 2003; Rubin, Bukowski & Parker, 2006). Recent studies on this subject include friendships among high school students that examine the social, emotional, and psychological aspects of these relationships (Arslan, Arslan, Kartol & Akcaalan, 2024; Kılınc, 2023; Riggio, 2024).

In studies conducted to develop instruments and scales to measure adolescent friendship, researchers' measurements of qualitative and quantitative aspects of relations vary. In the available literature from international scholars, sociometric techniques have been used to obtain results about the functions of friend groups (Cassidy & Asher, 1992; Poulin & Pedersen, 2007); scales have been used to gather information about friendships (Blyth & Foster-Clark, 1987; Bukowski, Hoza & Boivin, 1994; Furman, 1996; Parker & Asher, 1993; Sahmurova, Duncan, Bahshaliyeva, Mehdiyeva & Mustafayeva, 2010; Sahmurova & Gursesli, 2020); and open-ended surveys containing numerical sequencing of peers in the group have been used. In Türkiye, the peer friendship scale developed by Kaner (2000), can be found in the literature. However, there are several limitations to the scales of measurement and the dimensions they represent. The study by Armsden and Greenberg (1987) includes the emotional and cognitive aspects of friendship.

In the friendship attachment scale and the scale developed by Kaner (2000:80), friendship is studied only in relation to crime and the tendency towards crime. Erkan Atik, Çok, Esen Çoban, Doğan and Güney Karaman (2014) translated the peer friendship scale developed by Berndt and Perry into Turkish and tested the validity and reliability of the scale (Bukowski, Hoza & Boivin, 1993). In the translated scale, the topics studied included association, conflict, help, protection, and closeness of friends. The communicative effectiveness of adolescence scale evaluates adolescents' ability to communicate, the extent and kind of their friendships, and their self-perception in these relationships. The scale assesses teenage friendship based on distinct characteristics.

International literature in the field indicates that students' friend preferences, how they direct friendships, and especially their relationships with the opposite gender have been extensively investigated (Bukowski et al., 1994; Cassidy & Asher, 1992; Cavus & Sekyere-Asiedu, 2021). Bronfenbrenner (1979) highlights that students' engagement in schools is a function of the interaction between students and their contexts (peer groups, classrooms, and family). Rubin, Bukowski, Parker and Bowker (2008) argue that the effects of peer groups on students' attitudes and behaviour are recognised during adolescence. Lecturers must also be knowledgeable about the workplace demands of businesses and industries and teach subjects in such a way that students will be able to use the knowledge gained in their workplaces (Van der Bijl & Oosthuizen, 2019). Veiga (2013) suggests that from the motivational perspective, positive peer relations promote school engagement. Studies have found that peers at school increase academic motivation (Furrer &

Skinner, 2003), self-esteem (Furrer & Skinner, 2003; Keefe & Berndt, 1996), and academic performance (Veiga, 2012). Several studies also found negative effects of school peers on school engagement (Li, Liu & Steckelberg, 2010; Simons-Morton & Chen, 2009). Reviewing the studies conducted on this subject, the importance of issues such as closeness, aloneness, and the number of close friends has also been studied. In addition to these, the socio-economic level, school success, unacceptable behaviour and gender, have been investigated to determine whether they affect peer relations, and programmes have been developed to improve friendship skills.

Peer relations are one of the most crucial matters in the foreground of social ties, the socialising of friends in youth, and how they construct their friendships during adolescence. An adolescent's view of their friendships and sense of acceptance by peers significantly influences their self-esteem, social identity, and overall emotional well-being during the critical developmental phase of adolescence (Al-Bataineh et al., 2019; Altintig & Bagirova, 2019; Atmaca & Ozen, 2019; Mtemeri, 2019; Romanova, Bershedova, Morozova, Ovcharenko & Tolstikova, 2021; Salehi & Abdi, 2019). A person's desire to fit in and be liked by their peers can affect their behaviour, values, and beliefs, and ultimately define their identity. Adolescents explore a range of roles and identities as they move between different social groups, which helps to shape their sense of self (Shah, Szwedo & Allen, 2024). Similarly, having discussions with their peers may also help them to understand themselves better. This approach allows adolescents to construct their identity by adopting certain norms and values of their peer group and rejecting others that do not align with their worldview (Ragelienė, 2016).

The scale of communicative competence in peer relationships comprises items that are thought to be factors affecting communication between friends. Therefore, a scale in the education field, to measure peer relationships, is crucial.

In the relevant literature, several scales that measure adolescent peer relationships were found. However, no scales to measure peer relationships were found in Northern Cyprus. The education sector is one of the drivers of income and social life as documented in the relevant literature. Hürsen, Özcinar, Özdamlı and Uzunboylu (2011) determined the beliefs of communicative competences held by students and teachers at different levels of education. The studies of Alexandrache (2021), Garbin, De Oliveira and Telles (2021), Yazçayir and Selvi (2014), all prove that the field of education is a locomotive of economic growth and activity on the island. Thus, developing such a scale for the country is a true contribution to relevant literature on the topic.

Purpose of Study

The aim with this study was to develop a peer relationship scale for educational communicative effectiveness.

Significance of the Study

The peer relations scale that we aimed to develop is significant since it offers guidance on how adolescents might strengthen their relationships with their peers. It is also believed that this scale will contribute to the development of adolescents' ability to establish peer relations and to be accepted in the social environment at the point of maintaining friendships, and as a result, it will contribute to the development of individuals' focus on control. Furthermore, the population in Northern Cyprus, which was 286,257 according to the 2011 census, was estimated to be 382,836 by 2021 (Arslan et al., 2024). One could argue that this increase has been accompanied by an increase in the number of students enrolled at schools. Considering how quickly education is evolving in Cyprus, it is anticipated that this kind of research and scale development would improve the standard of education in terms of students' personal development at all levels while they are in the classroom. This is significant since, to date, no study has been conducted on a Cypriot case.

By using the peer relationship scale, peer

relationships can be improved in adolescents, and appropriate programmes can be developed. It can also contribute to the professional development of psychological counsellors, school counsellors, and class teachers. It is assumed that the expanded peer relationship scale can be used validly and reliably in other related studies, since validity and reliability data were obtained.

Materials and Methods

Study Sample

The Near East University Scientific Research Ethics Committee approved this research. The study group consisted of 670 students from public/state schools in Northern Cyprus, namely Cumhuriyet High School (224), Turkish Maarif College (207), Lefkoşa Turkish High School (96) and Gazimağusa Turkish Maarif College (143). Using the stratified hand-holding method, we randomly entered the classes and applied the scale in each class (Hammoudi, 2021; Kıyıcı & Koç, 2021). Three hundred and thirty-seven of the participants were male (50.2%), and 333 were female (49.8%). Detailed information on the study sample concerning gender and age distribution is presented in Table 1. The average age of the participating students was 15.3 years, while the median and mode were 15 and 14 years, respectively.

Table 1 Characteristics of the study sample – frequency table

a) Gender

	10 Grade		11 Grade		12 Grade	
	<i>N</i>	%	<i>N</i>	%	<i>N</i>	%
Female	109	31.8	111	32.4	123	35.8
Male	110	32.6	110	32.6	117	34.8
Total	219	32.2	221	32.5	240	35.3

b) Age

	Frequency	%	Valid %	Cumulative %
Valid	18	69	10.3	10.3
	17	110	16.4	26.7
	16	115	17.2	43.9
	15	70	10.4	54.3
	14	141	21.0	75.4
	13	116	17.3	92.7
	12	49	7.3	100.0
Total	670	100.0	100.0	
<i>M</i>	15.3			
<i>Mdn</i>	15			
Mode	14			

Data Collection

The authors visited the students, face-to-face surveys were completed, and all the answers were recorded on paper. The selection of these schools represents the average in terms of socio-economic status and student achievement in Northern Cyprus. The data collection tool was administered in schools with permission from the Northern Cyprus Ministry of National Education.

Procedure

Since we aimed to develop a peer relationship scale for communicative effectiveness, the procedure for the research is detailed in the discussion of the results.

Results

The Process of Survey Development

A literature review on the friendships of peers was conducted, but the scale questions in this survey

were not created using any well-known survey model. The development of the study on communicative effectiveness in friendships during adolescence was developed in three stages, like previous studies in the field (Kaner, 2000).

The first stage of forming the survey involved 180 students from four different state high schools in Northern Cyprus. A total of 45 students from each school were selected and they were asked to write a composition on topics of friendship expectations, families' perceptions of their friends, how they are perceived by their friends, and troubles/problems they experience with their friends. Random sampling was used in the survey.

Secondly, the students' compositions were scanned and analysed for sentences using common expressions with recognisable attitudes. The selected sentences were then turned into survey items together with items from the literature on the subject (Adelekan, 2021; Arasli, Mehtap-Smadi & Turan Katircioglu, 2005). Three specialists from the field of psychological counselling and guidance reviewed the 90 drafted items and 42 items, similar to those in previous studies in similar fields (Cassidy & Asher, 1992; Parker & Asher, 1993) were finalised. Detailed information on this process is provided in the following paragraphs.

The third stage involved the process of preparing the survey to test its validity and reliability. With the three specialists' advice, the population of the survey was decided, and the survey was administered randomly to 670 students, 16 times the number of items of the survey.

The reliability of the survey was tested using internal consistency with Cronbach's alpha coefficient. Out of the 42 survey items, items 1, 3, 5, 6, 10, 11, 12, 15, 34 and 35 showed a correlation value of 0.30, which suggests that the item had a small distinctive characteristic regarding the survey (Büyüköztürk, 2010).

Data on Reliability

The next step was to determine the reliability by analysing the remaining 32 items and providing a statistical analysis of the reactions and responses given in the survey, and to reflect on the survey. The purpose was to ensure that all items had at least a 0.30 correlation as suggested by different authors (Adelekan, 2021; Arasli et al., 2005). The alpha coefficient value was 0.835 between the harmony of the items and the survey, which suggested a strong correlation between them. In other words, the survey was found to be 83.5% reliable (Gadermann, Guhn & Zumbo, 2012).

Total Correlation

A total correlation was carried out for each item to assess their suitability for scale development in this study. Each of the 42 survey items was individually assessed using total correlation to evaluate their effectiveness in measuring the intended concept. Thirty-two items demonstrated a correlation coefficient higher than 0.30 on a 5-point Likert scale, indicating that these items successfully measured the relevant attributes. The Likert scale was graded as follows: Always (5), Medium to High (4), Medium (3), Medium to Low (2), and Never (1). Additionally, demographic information, including gender, age, and school-related variables were also collected in the survey.

Exploratory Factor Analysis

As a further step, an exploratory factor analysis using principal components was carried out to forecast the number of factors (or dimensions) to be constructed from the existing survey instrument, of which the results are presented in Table 2. As can be seen from the table, all 42 questions in the peer relationship scale were successfully grouped into 10 factors or dimensions as the eigenvalue of these dimensions was greater than 1, as per theory (Arasli et al., 2005).

Table 2 Exploratory factor analysis

Component	Total variance explained								
	Initial eigenvalues			Extraction sums of squared loadings			Rotation sums of squared loadings		
	Total	% of variance	Cumulative %	Total	% of variance	Cumulative %	Total	% of variance	Cumulative %
1	6.496	15.466	15.466	6.496	15.466	15.466	2.973	7.078	7.078
2	3.970	9.453	24.919	3.970	9.453	24.919	2.622	6.244	13.322
3	1.912	4.551	29.470	1.912	4.551	29.470	2.509	5.973	19.295
4	1.572	3.742	33.212	1.572	3.742	33.212	2.383	5.675	24.969
5	1.531	3.645	36.857	1.531	3.645	36.857	2.370	5.642	30.612
6	1.357	3.231	40.088	1.357	3.231	40.088	2.181	5.194	35.805
7	1.181	2.812	42.900	1.181	2.812	42.900	1.820	4.333	40.138
8	1.121	2.668	45.569	1.121	2.668	45.569	1.787	4.254	44.393
9	1.067	2.541	48.109	1.067	2.541	48.109	1.385	3.297	47.690
10	1.050	2.499	50.609	1.050	2.499	50.609	1.226	2.919	50.609
11	0.981	2.336	52.945						
12	0.945	2.249	55.194						
13	0.933	2.220	57.414						
14	0.905	2.155	59.569						
15	0.879	2.093	61.662						
16	0.844	2.009	63.671						
17	0.828	1.972	65.643						
18	0.803	1.912	67.555						
19	0.779	1.855	69.410						
20	0.751	1.789	71.199						
21	0.743	1.769	72.968						
22	0.701	1.669	74.637						
23	0.694	1.654	76.291						
24	0.681	1.621	77.912						
25	0.669	1.592	79.504						
26	0.659	1.569	81.073						
27	0.628	1.496	82.568						
28	0.623	1.483	84.051						
29	0.600	1.430	85.481						
30	0.594	1.415	86.896						
31	0.565	1.346	88.242						
32	0.563	1.340	89.583						
33	0.517	1.230	90.813						
34	0.503	1.198	92.011						
35	0.485	1.154	93.165						
36	0.482	1.149	94.314						
37	0.463	1.103	95.416						
38	0.431	1.025	96.442						
39	0.411	0.979	97.420						

Component	Total variance explained								
	Initial eigenvalues			Extraction sums of squared loadings			Rotation sums of squared loadings		
	Total	% of variance	Cumulative %	Total	% of variance	Cumulative %	Total	% of variance	Cumulative %
40	0.383	0.912	98.333						
41	0.362	0.861	99.194						
42	0.339	0.806	100.000						

In contrast, Table 3 displays the findings of the factor component score matrix for one to determine which group factors have been extracted. The highest score in each factor located in 1 of 10 extracted factors is in bold print. The findings indicate that the factors chosen for the new scale are those with the highest 10-component scores.

A factor score coefficient matrix was used to understand how survey items would be located throughout 10 factors (dimensions). The highest score coefficient for each survey item is highlighted in bold, which also shows the corresponding dimension out of 10. This enabled us to construct 10 dimensions of the survey instrument using 42 items.

Table 3 Component score coefficient matrix

	Extraction method: Principal component analysis									
	Component									
	1	2	3	4	5	6	7	8	9	10
I pretend to know a subject when I do not when I am with friends.	0.005	0.034	0.113	0.254	-0.044	-0.024	-0.074	-0.101	-0.099	0.165
I know when to speak when I am with friends.	-0.054	-0.037	0.092	-0.110	0.179	0.049	0.105	-0.118	0.068	0.032
I do not listen to topics I do not find interesting even if my friends describe it with passion.	0.120	0.094	-0.153	0.255	-0.017	0.089	0.078	-0.118	0.164	-0.071
I enjoy conversing with my friends.	0.005	0.072	0.066	-0.271	-0.036	0.072	0.138	-0.104	-0.107	-0.021
I find it difficult to communicate with my friends because of differences in culture and family.	0.029	0.034	-0.085	0.345	0.055	-0.054	-0.115	0.084	-0.040	-0.031
I think that my friends understand me very well.	-0.122	0.308	-0.007	0.035	0.000	0.011	0.032	-0.024	0.062	0.070
I understand exactly what my friends mean when they are speaking.	-0.013	0.179	0.000	-0.056	0.049	0.122	0.097	-0.149	0.119	-0.125
I trust what my friends tell me.	-0.065	0.374	-0.018	0.124	-0.119	-0.047	-0.112	0.096	-0.064	0.013
My friends trust what I say.	-0.010	0.314	-0.012	0.004	-0.014	-0.102	0.080	0.063	-0.044	-0.076
I think that I speak Turkish very well.	-0.077	0.065	-0.079	0.056	0.310	-0.040	0.010	0.054	-0.093	-0.020
There are times when I do not believe what my friends say.	-0.032	-0.021	-0.060	-0.177	-0.010	-0.012	0.482	0.082	0.041	0.050
I tell my friend that I do not believe what he/she is telling me.	0.023	-0.007	0.018	0.026	-0.004	-0.111	0.042	-0.057	-0.064	0.635
I notice that I get the attention when I am speaking to my friends.	0.027	0.041	0.094	0.056	0.035	-0.131	0.082	-0.101	0.272	0.244
I make sense when I speak to my friends.	0.081	-0.055	-0.040	0.049	0.305	-0.057	0.038	-0.108	0.103	-0.033
There are times when I think that I do not make any sense when speaking to my friends.	0.040	0.150	-0.058	0.095	-0.254	0.100	0.067	-0.007	-0.045	0.222
I explain things to my friends from the most basic to the most complex point in detail.	0.056	0.069	0.216	0.078	-0.087	0.040	-0.096	-0.169	0.092	-0.059
I support the things I say with visual aids (photos, gestures, phone images...) to my friends.	-0.130	0.006	0.411	-0.038	-0.102	-0.006	-0.078	-0.065	-0.014	0.046
I give examples of the topics that I talk about to my friends.	-0.063	0.004	0.308	-0.084	0.039	-0.143	0.104	0.086	-0.105	-0.119
I emphasise the most important points in my speech	0.241	-0.084	0.108	-0.026	0.024	0.006	-0.030	-0.156	0.001	-0.210
I think that it would be a mistake to partially explain the topic of my conversation to my friends.	-0.030	0.037	-0.041	-0.007	0.105	-0.013	0.374	0.007	-0.113	0.033
I also talk about relevant topics if appropriate.	0.093	0.059	0.076	0.089	0.090	-0.087	0.048	0.011	-0.165	-0.184
I try to remind my friends of the previous reactions on similar topics.	0.270	-0.013	0.014	0.248	0.190	-0.224	-0.039	-0.100	-0.211	-0.133
I try solely to listen to my friends when they are speaking.	-0.002	0.057	-0.100	-0.009	0.049	0.137	-0.163	0.039	0.047	0.151
I want to speak about topics that my friends require at that moment.	0.065	0.037	-0.010	-0.096	-0.039	0.119	-0.033	-0.016	0.010	0.066
I always provide evidence for the things I say to my friends.	-0.033	-0.098	0.289	-0.096	-0.023	-0.053	0.008	0.014	0.034	0.117
I pay special attention to varying my tone of voice to hold my friends' attention.	-0.147	-0.109	0.105	0.034	0.002	0.191	-0.191	0.171	0.104	0.140
I think before I speak on determined topics with my friends.	-0.004	-0.115	0.069	0.005	0.112	0.139	-0.046	-0.012	-0.056	0.026

Extraction method: Principal component analysis										
	Component									
	1	2	3	4	5	6	7	8	9	10
I try to observe my friends' reactions to topics.	0.085	-0.061	0.042	0.047	0.010	0.143	-0.118	0.018	0.026	-0.050
I speak clearly (word for word) so that my friends can understand me.	-0.145	-0.045	-0.042	0.001	0.259	0.134	-0.031	0.142	-0.085	0.114

Discussion

One of the primary tasks of psychological guidance and counselling is prevention. In addition to this, the tasks of aiding in the development of psychological, social, and physical conditions of children and teenagers cannot be ignored (Singh, Roy, Sinha, Parveen, Sharma & Joshi, 2020). Therefore, with this study we aimed to develop and propose a new communication effectiveness scale for students in high schools. Northern Cyprus was selected for this purpose. In the study, 10 factors were loaded successfully to measure the communication effectiveness of students under investigation. This major finding is that the instrument with 42 questions used in this study could be harmonised into 10 subgroups to forecast the communication effectiveness of students in general. Thus, this study concludes and offers applicability of the instrument under investigation, with 10 different dimensions.

It can also be argued that when counsellors attend to all these issues, observable differences can be created in their overall well-being, leading to an improvement in the quality of their leisure activities, and these can become observable and evident. This study also shed light on peer-bullying, and studies on the prevention of bullying. It is also assumed that awareness of communication problems between students could be solved individually (Octaberlina & Muslimin, 2020; Simamora, Saragih & Hasratuddin, 2019). It is necessary to underline that friendships are a risk factor for students and is present for the greatest part of adolescent life. Friendships shape communicative effectiveness in the school environment and necessitate self-assertion (Edessa, 2017; Unachukwu & Anarah, 2021). In this context, the significance of the newly developed scale for assessing students' communication skills with one another has become even more evident.

Conclusion and Recommendation

We propose a 32-item scale for measuring the communicative effectiveness of high school students. The survey adds to the available research by providing useful literature on peer relationships. The research provides essential information on communication levels to school counsellors and teenagers and guides further research on the topic. Finally, the results of this study are expected to be helpful for secondary and high school administrations when designing their targeted achievements.

Furthermore, the scale used in this study can easily be adapted to investigate the communication skills of students in secondary and high school and to develop them accordingly during their educational life. Further research can be conducted in similar cases on other small islands. Knowing that Cyprus is a divided island, a comparative study between the northern and southern parts of Cyprus

would also be interesting.

Data Availability Statement

Data will be made available on request.

Acknowledgement

The Turkish form of this scale can be forwarded to researchers on request.

Authors' Contributions

AK and GA contributed to the article in all processes. AK took part in implementing the survey instruments and writing thereof, while GA carefully read and corrected the written article.

Conflicts of Interest

The authors declare no conflict of interest.

Notes

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References

- Adelekan SA 2021. The reverse causality of social entrepreneurship and organisational performance. *Global Journal of Business, Economics and Management: Current Issues*, 11(1):69–79. <https://doi.org/10.18844/gjbem.v11i1.5209>
- Al-Bataineh AT, Brenwall L, Stalter K & York J 2019. Student growth through goal setting. *International Journal of Learning and Teaching*, 11(4):147–161. <https://doi.org/10.18844/ijlt.v11i4.4329>
- Alexandrache C 2021. Non-verbal communication and intercultural dialogue – An educative perspective. *New Trends and Issues Proceedings on Humanities and Social Sciences*, 8(2):20–26. <https://doi.org/10.18844/prosoc.v8i2.6186>
- Altintig A & Bagirova S 2019. Effect of school and family factor on athletes studying at high school in Sakarya. *New Trends and Issues Proceedings on Humanities and Social Sciences*, 6(5):058–065. <https://doi.org/10.18844/prosoc.v6i5.4374>
- Arasli H, Mehtap-Smadi S & Turan Katircioglu S 2005. Customer service quality in the Greek Cypriot banking industry. *Managing Service Quality: An International Journal*, 15(1):41–56. <https://doi.org/10.1108/09604520510575254>
- Armsden GC & Greenberg MT 1987. The inventory of parent and peer attachment: Individual differences and their relationship to psychological well-being in adolescence. *Journal of Youth and Adolescence*, 16:427–454. <https://doi.org/10.1007/BF02202939>
- Arslan N, Arslan S, Kartol A & Akcaalan M 2024. The predicting role of science motivation on the social emotional learning. *International Journal of Learning and Change*, 16(5):552–571. <https://doi.org/10.1504/IJLC.2024.140890>
- Atmaca T & Ozen H 2019. Self-esteem of high school students: A structural equation modeling analysis. *Cypriot Journal of Educational Sciences*, 14(3):422–435. <https://doi.org/10.18844/cjes.v14i3.4107>
- Aydin B 2019. An examination of high school students' social skill levels according to participation in

- musical activities. *Cypriot Journal of Educational Sciences*, 14(4):618–629.
<https://doi.org/10.18844/cjes.v11i4.4446>
- Barton BK & Cohen R 2004. Classroom gender composition and children's peer relation. *Child Study Journal*, 34(1):29–45.
- Blyth DA & Foster-Clark FS 1987. Gender differences in perceived intimacy with different members of adolescents' social networks. *Sex Roles*, 17:689–718. <https://doi.org/10.1007/BF00287683>
- Bronfenbrenner U 1979. *The ecology of human development: Experiments by nature and design*. Cambridge, MA: Harvard University Press.
- Brownell J 2012. *Listening: Attitudes, principles, and skills* (5th ed). Boston, MA: Pearson Education.
- Bukowski WM, Hoza B & Boivin 1993. Popularity, friendship, and emotional adjustment during early adolescence. *New Directions for Child and Adolescent Development*, 60:23–37.
<https://doi.org/10.1002/cd.23219936004>
- Bukowski WM, Hoza B & Boivin M 1994. Measuring friendship quality during pre- and early adolescence: The development and psychometric properties of the Friendship Qualities Scale. *Journal of Social and Personal Relationships*, 11(3):471–484.
<https://doi.org/10.1177/0265407594113011>
- Büyüköztürk Ş 2010. *Sosyal bilimler için veri analizi el kitabı: İstatistik, araştırma deseni, SPSS uygulamaları ve yorum* [Data analysis handbook for social sciences: Statistics, research design, SPSS applications and interpretation]. Ankara, Türkiye: Pegem Akademi Yayınları.
- Cassidy J & Asher SR 1992. Loneliness and peer relations in young children. *Child Development*, 63:350–365. <https://doi.org/10.1111/j.1467-8624.1992.tb01632.x>
- Cavus N & Sekyere-Asiedu D 2021. A comparison of online video conference platforms: Their contributions to education during the COVID-19 pandemic. *World Journal on Educational Technology: Current Issues*, 13(4):1162–1173.
<https://doi.org/10.18844/wjet.v13i4.6329>
- Cotterell J 2007. *Social networks in youth and adolescence*. London, England: Routledge.
<https://doi.org/10.4324/9780203007488>
- Decety J & Jackson PL 2004. The functional architecture of human empathy. *Behavioral and Cognitive Neuroscience Reviews*, 3(2):71–100.
<https://doi.org/10.1177/1534582304267187>
- Demanet J & Van Houtte M 2012. School belonging and school misconduct: The differing role of teacher and peer attachment. *Journal of Youth and Adolescence*, 41:499–514.
<https://doi.org/10.1007/s10964-011-9674-2>
- Demir M & Urberg KA 2004. Friendship and adjustment among adolescents. *Journal of Experimental Child Psychology*, 88(1):68–82.
<https://doi.org/10.1016/j.jecp.2004.02.006>
- Dridi T 2023. Tunisian high school students and digital media literacy: A quantitative study. *Journal of Education*, 203(1):196–210.
<https://doi.org/10.1177/00220574211025979>
- Edessa S 2017. Impacts of insufficient instructional materials on teaching biology: Higher education systems in focus. *Cypriot Journal of Educational Sciences*, 12(1):02–08.
<https://doi.org/10.18844/cjes.v12i1.267>
- El Khashab Y 2023. Students and supervisors interactions in master's projects: Exploring face-to-face vs mediated communication. *Asian Journal of Contemporary Education*, 7(1):25–42.
<https://doi.org/10.55493/5052.v7i1.4812>
- Erkan Atik E, Çok F, Esen Çoban A, Doğan T & Güney Karaman N 2014. The Turkish adaptation of the Friendship Qualities Scale: A validity and reliability study. *Educational Sciences: Theory & Practice*, 14(2):440–446.
<https://doi.org/10.12738/estp.2014.2.1778>
- Furman W 1996. The measurement of friendship perceptions: Conceptual and methodological issues. In WM Bukowski, AF Newcomb & WW Hartup (eds). *The company they keep: Friendship in childhood and adolescence*. Cambridge, England: Cambridge University Press.
- Furrer C & Skinner E 2003. Sense of relatedness as a factor in children's academic engagement and performance. *Journal of Educational Psychology*, 95(1):148–162. <https://doi.org/10.1037/0022-0663.95.1.148>
- Gademmann AM, Guhn M & Zumbo BD 2012. Estimating ordinal reliability for Likert-type and ordinal item response data: A conceptual, empirical, and practical guide. *Practical Assessment, Research & Evaluation*, 17(3):3.
<https://doi.org/10.7275/n560-j767>
- Garbin MC, De Oliveira ET & Telles S 2021. Active methodologies supported by interaction and communication technologies in higher education. *Global Journal of Information Technology: Emerging Technologies*, 11(2):47–54.
<https://doi.org/10.18844/gjit.v11i2.6117>
- Gifford-Smith ME & Brownell CA 2003. Childhood peer relationships: Social acceptance, friendships, and peer networks. *Journal of School Psychology*, 41(4): 235–284. [https://doi.org/10.1016/S0022-4405\(03\)00048-7](https://doi.org/10.1016/S0022-4405(03)00048-7)
- Gokalp M 2019. Analysis of communication styles between adolescents and parents (example of Kyrgyzstan). *Contemporary Educational Researches Journal*, 9(4):119–127.
<https://doi.org/10.18844/cej.v9i4.4442>
- Hammoudi K 2021. The urban Tlemcenian glottal stop in a prospective coma due to contact and accommodation: A cross-sectional investigation. *International Journal of New Trends in Social Sciences*, 5(1):28–45.
<https://doi.org/10.18844/ijntss.v5i1.6104>
- Hay DF 2005. Early peer relations and their impact on children's development. In RE Tremblay, RG Barr & RD Peters (eds). *Encyclopedia on early childhood development*. Montreal, Canada: Centre of Excellence for Early Childhood Development. Available at https://www.researchgate.net/profile/Dale-Hay/publication/253434106_Early_Peer_Relations_and_their_Impact_on_Children's_Development/links/0c96052d6539b2d3d2000000/Early-Peer-Relations-and-their-Impact-on-Childrens-Development.pdf. Accessed 14 May 2024.
- Hürsen C, Özcinar Z, Özdamlı F & Uzunboylu H 2011. The communicative competences of students and teachers in different levels of education in North Cyprus. *Asia Pacific Education Review*, 12:59–66.

- <https://doi.org/10.1007/s12564-010-9120-2>
- Juvoven J, Espinoza G & Knifsend C 2012. The role of relationships in student academic and extracurricular engagement in handbook of research on student engagement. In SL Christenson, AL Reschly & C Wylie (eds). *Handbook of research on student engagement*. Boston, MA: Springer. https://doi.org/10.1007/978-1-4614-2018-7_18
- Kaban A 2021. Views on the usage of social media tools in school-family communication. *International Journal of Technology in Education*, 4(3):314–330. <https://doi.org/10.46328/ijte.118>
- Kaner S 2000. Akran ilişkileri ölçeği ve akran sapması ölçeği geliştirme çalışması [Peer relationships scale and peer deviance scale development study]. *Ankara Üniversitesi Eğitim Bilimleri Fakültesi Dergisi*, 33(1–2):77–89. Available at <http://i-rep.emu.edu.tr:8080/xmlui/bitstream/handle/11129/2582/914.pdf?sequence=1>. Accessed 14 May 2024.
- Keefe K & Berndt TJ 1996. Relations of friendship quality to self-esteem in early adolescence. *The Journal of Early Adolescence*, 16(1):110–129. <https://doi.org/10.1177/0272431696016001007>
- Kılınç E 2023. Examining the relationship between adolescents' psychological resilience and attachment styles using canonical correlation. *International Journal of Psychology and Educational Studies*, 10(2):441–452. <https://doi.org/10.52380/ijpes.2023.10.2.1001>
- Kiyici N & Koc Z 2021. Factors related to the perceptions of nurses about the work environment. *New Trends and Issues Proceedings on Advances in Pure and Applied Sciences*, 13:012–021. <https://doi.org/10.18844/gjpaas.v13i1.6741>
- Li L, Liu X & Steckelberg AL 2010. Assessor or assessee: How student learning improves by giving and receiving peer feedback. *British Journal of Educational Technology*, 41(3):525–536. <https://doi.org/10.1111/j.1467-8535.2009.00968.x>
- Mtemeri J 2019. Family influence on career trajectories among high school students in Midlands Province, Zimbabwe. *Global Journal of Guidance and Counseling in Schools: Current Perspectives*, 9(1):024–035. <https://doi.org/10.18844/gjgc.v9i1.4229>
- Octaberlina LR & Muslimin AI 2020. EFL students perspective towards online learning barriers and alternatives using Moodle/Google Classroom during the COVID-19 pandemic. *International Journal of Higher Education*, 9(6):1–9. <https://doi.org/10.5430/ijhe.v9n6p1>
- Parker JG & Asher SR 1993. Friendship and friendship quality in middle childhood: Links with peer group acceptance and feelings of loneliness and social dissatisfaction. *Developmental Psychology*, 29(4):611–621. <https://doi.org/10.1037/0012-1649.29.4.611>
- Poulin F & Pedersen S 2007. Developmental changes in gender composition of friendship networks in adolescent girls and boys. *Developmental Psychology*, 43(6):1484–1496. <https://doi.org/10.1037/0012-1649.43.6.1484>
- Ragelienė T 2016. Links of adolescents identity development and relationship with peers: A systematic literature review. *Journal of the Canadian Academy of Child and Adolescent Psychiatry*, 25(2):97–105. Available at https://pmc.ncbi.nlm.nih.gov/articles/PMC4879949/pdf/ccap25_p0097.pdf. Accessed 17 October 2024.
- Ramnarain U & Malope M 2023. Comparing the technological pedagogical content knowledge-practical proficiency of novice and experienced life sciences teachers. *South African Journal of Education*, 43(4):Art. #2230, 10 pages. <https://doi.org/10.15700/saje.v43n4a2230>
- Riggio RE 2024. Developing student leader emotional and social communication skills. *Journal of Campus Activities Practice and Scholarship*, 6(1):68–73. <https://doi.org/10.52499/2024007>
- Romanova ES, Bershedova LI, Morozova TY, Ovcharenko LY & Tolstikova SN 2021. Psychological problems and features of modern schoolchildren's communication. *World Journal on Educational Technology: Current Issues*, 13(1):10–20. <https://doi.org/10.18844/wjet.v13i1.5360>
- Rubin KH, Bukowski WM & Parker JG 2006. Peer interactions, relationships, and groups. In W Damon & RM Lerner (eds). *Handbook of child psychology* (6th ed., Vol. 3). Hoboken, NJ: John Wiley & Sons. Available at https://rehabilitationpsychologist.org/resources/HANDBOOK_OF_CHILD_PSYCHOLOGY_SIXTH_EDITI.pdf. Accessed 14 November 2024.
- Rubin KH, Bukowski WM, Parker JG & Bowker JC 2008. Peer interactions, relationships, and groups. In W Damon, RM Lerner, D Kuhn, RS Siegler & N Eisenberg (eds). *Child and adolescent development: An advanced course*. New York, NY: John Wiley & Sons.
- Sahmurova A, Arikan S, Gursesli MC & Duradoni M 2022. ADHD symptoms as a stressor leading to depressive symptoms among university students: The mediating role of perceived stress between ADHD and depression. *International Journal of Environmental Research and Public Health*, 19(17):11091. <https://doi.org/10.3390/ijerph191711091>
- Sahmurova A, Duncan BP, Bahshaliyeva K, Mehdiyeva N & Mustafayeva S 2010. Antifungal activity of the essential oils of *Pyrethrum leptophyllum* Stev. ex Bieb. *Journal of Residuals Science & Technology*, 7(3):187–190. Available at https://www.researchgate.net/publication/288605948_Antifungal_Activity_of_the_Essential_Oils_of_Pyrethrum_leptophyllum_Stev_ex_Bieb. Accessed 11 May 2024.
- Sahmurova A & Gursesli MC 2020. Effects of noise pollution on anger and smoking addiction in college students. *IIOAB Journal*, 11(5):42–47. Available at https://www.researchgate.net/profile/Mustafa-Gursesli/publication/350771926_EFFECTS_OF_NOISE_POLLUTION_ON_ANGER_AND_SMOKING_ADDICTION_IN_COLLEGE_STUDENTS/links/6070b91492851c8a7bb6fec3/EFFECTS-OF-NOISE-POLLUTION-ON-ANGER-AND-SMOKING-ADDICTION-IN-COLLEGE-STUDENTS.pdf. Accessed 12 April 2024.
- Salehi M & Abdi M 2019. Prediction of drug tendency use on the basis of religious orientation and thrill-

- seeking of students. *Global Journal of Psychology Research: New Trends and Issues*, 9(1):008–015. <https://doi.org/10.18844/gjpr.v9i1.4109>
- Serrano RG 1984. Mexican American adolescent self-disclosure in friendship formation. *Adolescence*, 19(75):539–549.
- Shah EN, Szwedo DE & Allen JP 2024. Adolescent close friendships, self-perceived social acceptance, and peer-rated likeability as predictors of wellbeing in young adulthood. *Frontiers in Developmental Psychology*, 2:1435727. <https://doi.org/10.3389/fdpys.2024.1435727>
- Shapka JD & Law DM 2013. Does one size fit all? Ethnic differences in parenting behaviors and motivations for adolescent engagement in cyberbullying. *Journal of Youth and Adolescence*, 42:723–738. <https://doi.org/10.1007/s10964-013-9928-2>
- Simamora RE, Saragih S & Hasratuddin 2019. Improving students' mathematical problem-solving ability and self-efficacy through guided discovery learning in local cultural context. *International Electronic Journal of Mathematics Education*, 14(1):61–72. <https://doi.org/10.12973/iejme/3966>
- Simons-Morton B & Chen R 2009. Peer and parent influences on school engagement among early adolescents. *Youth & Society*, 41(1):3–25. <https://doi.org/10.1177/0044118x09334861>
- Singh S, Roy D, Sinha K, Parveen S, Sharma G & Joshi G 2020. Impact of COVID-19 and lockdown on mental health of children and adolescents: A narrative review with recommendations. *Psychiatry Research*, 293:113429. <https://doi.org/10.1016/j.psychres.2020.113429>
- Unachukwu GC & Anarah OT 2021. Evaluating the impacts of social skill instruction on self-efficacy of junior secondary school students in Anambra State, Nigeria. *Canadian Social Science*, 17(6):14–21. <https://doi.org/10.3968/12299>
- Van der Bijl A & Oosthuizen LJ 2019. Deficiencies in technical and vocational education and training lecturer involvement qualifications and its implications in the development of work related skills. *South African Journal of Higher Education*, 33(3):205–221. <https://doi.org/10.20853/33-3-2886>
- Veiga FH 2012. *Transgressão e autoconceito dos alunos na escola: Investigação diferencial* [Transgression and students' self-concept at school: Differential investigation] (3rd ed). Lisboa, Portugal: Fim de Século. Available at <https://repositorio.ul.pt/handle/10451/5474>. Accessed 14 May 2024.
- Veiga FH 2013. Envolvimento dos alunos na escola: Elaboração de uma nova escala de avaliação [Involving two students in school: Elaboration of a new assessment scale]. *International Journal of Developmental and Educational Psychology*, 1(1):441–450. Available at <http://hdl.handle.net/10451/10032>. Accessed 14 May 2024.
- Yazçayir N & Selvi K 2014. Information and communication technology competencies of class teachers. *International Journal of Innovative Research in Education*, 1(1):20–30. <https://doi.org/10.18844/ijire.v1i1.120>