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Research Article

Inferiority and Superiority Complex: Examination in Terms of Gender, Birth Order and Psychological Symptoms

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ABSTRACT

Inferiority and superiority complex are personality structures that point to unhealthy development in Adlerian theory. In this study, the aim was to examine inferiority and superiority complex in terms of socio-demographic characteristics of adult individuals, and to determine the predictive relationships between psychological symptoms and inferiority and superiority complex. A total of 361 (205 females, 156 males) adults between the ages of 18 and 62, reached through the convenient sampling method, participated in the study. Data were collected through the Turkish Version of the Adlerian Inferiority and Superiority Complex Shortened Scales, the Symptom Check List, and the Personal Information Form. In the study, it was found that the main effects of gender and birth order were significant in inferiority complex, while the main effect of birth order was significant in superiority complex. Gender main effect for superiority complex and gender-birth order interaction effect for both complexes were not significant. In addition, it was determined that psychological symptoms were a significant predictor of inferiority complex, but not a significant predictor of superiority complex.

Keywords: Adlerian theory, personality development, inferiority complex, superiority complex, psychological symptoms

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Introduction

Personality development has attracted the attention of many researchers from past to present, and different theories have been proposed on this subject (Freud, 1960; Jung, 1966; McCrae & Costa, 2008). The feeling of inadequacy is at the centre of Adlerian approach, which is one of the personality theories. According to Adler, the feeling of inadequacy is the basis of being human (Adler, 1932) and this feeling results from the fact that individuals live a life dependent on others when they are born (Adler, 1952). The process of overcoming this sense of inadequacy felt by the individual also represents the development process of the individual's personality. Adler (1952; 1956) explains the healthy way of coping with the individual's feeling of inadequacy through the effort of superiority; however, not every individual can overcome this emotion in healthy ways. In this case, the individual develops inferiority complex and/or superiority complex. Both complexes are based on individuals' comparing themselves with others (Adler, 1952; Dean, 1930; Wright, 1925) and indicate that the individual does not have the ability to solve a problem on the basis of social benefits (Adler, 1964).

Inferiority complex is an intense and deep feeling of inadequacy that individuals experience in relation to perceiving others as more competent than themselves and not feeling ready to overcome a problem (Adler, 1964). This complex prevents the expression and development of the existing potential (Mishra, 2018). It causes individuals to become discouraged, to be afraid of defeat, and to be inactive in the face of life events. Not having self-confidence, excessive self-limitation, intense fear of failure, the desire to quit something started and avoiding social environments are among the indicators of inferiority complex (Adler, 1952). According to the results of previously conducted studies, inferiority complex is negatively correlated with psychological well-being (Kabir, 2018), while it is positively correlated with various mental health problems (Lee, 2008; Payam & Agdasi, 2017). In this context, inferiority complex should be distinguished from personality constructs such as neuroticism and self-esteem, that correlate with mental health problems (Chan & Cheung, 2022; Priyadhersini et al., 2022; Xia et al.,

2011). Neuroticism provides insight into emotional instability as a personality trait (Costa & McCrea, 1987). Self-esteem mainly includes an overall assessment of the individual's self-worth (Rossenberg, 1965). On the other hand, inferiority complex includes an evaluation of competencies related to whether individuals can overcome any problem.

Superiority complex is an unhealthy way an individual with inferiority complex follows to cope with inferiority complex. In other words, superiority complex is the overcompensation of inferiority complex and basically has the function of hiding inferiority complex (Adler, 1932). Superiority complex develops in individuals who believe that they cannot show themselves on the positive side of life and who are incapable of solving the problems they encounter in effective ways (Adler, 1945; 1956). Individuals try to cope with their inferiority complex by believing that they are more competent/sufficient than others (Adler, 1952). According to Adler (1956), making excessive demands, arrogance and all kinds of behaviours aimed at showing oneself better than others are among the indicators of superiority complex. In addition to these, individuals who experience intense superiority complex are incapable of things like altruistic behaviour, courtesy, and reciprocity in friendships (Darmstadter, 1949). Individuals are often exposed to exclusionary reactions of groups due to these behaviours (Steffenhagen, 1978). It is reported that individuals with superiority complex have an increased tendency to join illegal groups and be cruel to those they manage (Ayim-Aboagye et al., 2018). According to the results of studies conducted, superiority complex is negatively correlated with neuroticism (Čekrlija et al., 2018). In addition, narcissism is the strongest predictor of superiority complex (Čekrlija et al., 2023). In this context, although neuroticism and narcissism are correlated with superiority complex, there are important conceptual differences between them. While the dominant emotions of neurotic individuals are fear, anxiety, helplessness (Costa & McCrea, 1987), the dominant emotions of individuals with high superiority complex are pride, arrogance, anger and hostility (Adler, 1945; 1956). Moreover, considering the

multifactorial nature of narcissism, superiority constitutes one dimension of narcissism (Emmons, 1984; Raskin & Tery, 1988).

In Adlerian theory, besides complexes, another important concept in the development of personality is birth order (Adler, 1952). According to Adler, although siblings are in the same family, their environment is quite different from each other (Adler, 1956) and parental attention may differ according to the birth order of the children (Adler, 1952; Sulloway, 1996). In Adler's view, the first childs, unlike other children, are at the centre of an exaggerated attention for a while without sharing parental love with anyone; however, they are "dethroned" with the birth of the second child. They have to share the attention of their parents with their siblings from the moment middle and last children are born. On the other hand, since there is no other child after the last child, he/she never loses his position in the family and has a good development process compared to other children (Adler, 1952; 1984). Sulloway (2007) states that first- and last-born children are raised with more parental investment than middle children.

Aim of the Present Study

Adlerian theory has not received scientific interest for many years and sufficient empirical evidence has not been provided for this theory (Čekrlija et al., 2017; Darmstadter, 1949); however, in recent years, this approach has begun to attract the researchers'attention. As a matter of fact, in recent years in Turkey, a large number of scales based on Adlerian approach have been developed/adapted (e.g., Akdoğan & Ceyhan, 2014; Güngör & Dillman-Taylor, 2021; Kalkan, 2005; Kalkan, 2009; Üzbe-Atalay, 2019) and various studies have been carried out in this context (Göktaş et al., 2022; Oktan et al., 2014; Uysal-Çelik & Demir, 2021). On the other hand, no study has been found in Turkey on inferiority and superiority complex, which have an important place in Adlerian theory, and which indicate the unhealthy development of personality.

There are a limited number of studies on inferiority and superiority complex in the literature, and these are mostly correlational studies conducted with student groups (e.g., Kabir, 2018; Rokvić, 2020). In the present

study, which also included the adult group, the predictive relationship regarding the complexes was also examined. In the literature, the findings are not consistent in terms of gender (Brier, 2018; Dhara & Barman, 2020; Kabir & Rashid, 2017; Kalavani, 2017; Kolisnyk et al., 2020; Poorana-Nancy, & Dharma-Raja, 2018). At this point, it can be stated that there is a need for new research on the gender variable. In the literature, birth order and inferiority complex have generally been studied in relation to variables such as education level and academic achievement, psychological well-being, and social anxiety (Kabir & Rashid, 2017; Kalavani, 2017; Kim, 2020; Payam & Agdasi, 2017; Venkataraman & Manivannan, 2018). On the other hand, no research has been found in the literature examining the relationship between birth order and complexes, and between psychological symptoms and complexes.

In his explanations of complexes, Adler drew attention to anxiety (Adler, 1964), anger (Adler, 1932; 1956) and depression (Adler, 1952) in terms of psychological symptoms. The nature of interpersonal sensitivity, on the other hand, is associated with the individual's feelings of humiliation and inadequacy (Dag, 1991). For this reason, four psychological symptoms - anxiety, anger, depression, and interpersonal sensitivity- were discussed in the present study. In parallel with the theoretical basis, previous research, and social expectations, it is estimated in the current study in terms of gender that inferiority complex will be higher in females and there will be no difference in the level of superiority complex. It is also expected that the levels of inferiority and superiority complexes will differ in terms of birth order, and psychological symptoms will be a significant predictor of both complexes.

Today, being healthy is defined according to the individual's social and psychological well-being as well as the absence of a physical illness (World Health Organization [WHO], (1989). Therefore, examining psychological symptoms which provide an insight regarding the mental health and well-being levels of individuals will provide a new perspective to literature. Answers to the following questions were sought in the study in line with this purpose.

1. Is there a significant difference between inferiority and superiority complexes of adults with different birth order in terms of their gender?
2. Do psychological symptoms predict inferiority and superiority complexes significantly?

Method

Participants

Participants of the study are 361 adults (205 females, 156 males) between the ages of 18 and 62 (*M* = 33.96; *SD* = 10.18). Participants were reached via online platform through convenient sampling. Majority of the participants are women (56.8%). It can be seen that the participants between the ages of 31 and 40 (35.2%) are in the majority. The individuals except the first and last children were classified as the middle child in accordance with the Adlerian theory (Adler, 1952; 1984). Participants coming from families with two children were classified as first-last children. There are no participants who reported being an only child. In this context, it can be stated that the participants (44.3%) who are the middle child of their family are higher in number than the other groups. Majority of the participants (60.7 %) stated that they spent their childhood in a nuclear family. In terms of education level, most of the participants (58.7%) are undergraduate graduates.

Data Collection and Ethical Considerations

The research was conducted with the permission of Sakarya University Social and Human Sciences Ethics Committee (Document number: E-61923333-050.99-122425). Data were collected online via Google Forms. In the application, an Informed Consent Form was presented to the participants and in this form, the individuals were asked whether they volunteered to participate in the research, and those who chose the option "yes" were included in the study. In addition to this, the purpose and importance of the research was explained in the Informed Consent Form, information was given

about the confidentiality of data to ensure that the participants gave sincere answers to the measurement instruments.

Measures

In this study, Turkish Version of the Adlerian Inferiority and Superiority Complex Shortened Scales, (TV-AISC-SS), Symptom Checklist Revised (SCL – 90 R) and Personal Information Form were used as data collection instruments. Information about these measurement instruments is presented below.

Turkish Version of the Adlerian Inferiority and Superiority Complex Shortened Scales (Derin & Şahin, 2023)

The measurement instrument which aimed to measure the level of inferiority and superiority complex was developed by Mitrović (1998 as cited in Čekrlija et al., 2017). Later, a short form of the scales was created by Čekrlija et al. (2017) and its psychometric properties were tested. Inferiority Complex and Superiority Complex Scales Short Form was adapted to Turkish culture by Derin & Şahin (2023). Both scales are based on a five-point rating (1 = *Strongly Disagree* to 5 = *Strongly Agree*). According to the results of convergent validity, Inferiority and Superiority Complex Scales were found to be significantly correlated with Narcissistic Personality Inventory and Rosenberg Self-Esteem Inventory. Cronbach's Alpha coefficient was .89 for the Inferiority Complex Scale and .78 for the Superiority Complex Scale. Temporal stability coefficient of the scales was .88 for the Inferiority Complex Scale and .84 for the Superiority Complex Scale. Inferiority Complex Scale consists of 10 items and can be scored in the range of 10-50, while Superiority Complex Scale consists of 9 items and can be scored in the range of 9-45. An increase in the score obtained from the scale indicates an increase in the level of complexes (Derin & Şahin, 2023). The Cronbach's alpha coefficient calculated with the data of the present study was .89 for Inferiority Complex and .77 for Superiority Complex.

Symptom Checklist Revised (SCL – 90 R) (Dag, 1991)

The scale provides information on the level of psychiatric symptoms of individuals and which areas they cover. The SCL – 90 R, which was developed by Derogatis (1977) using the Hopkins Symptom Check List, was adapted to Turkish culture by Dag (1991). Scoring is carried out by giving a score between 0 and 4 for the selected option for each item. Correlation of SCL – 90 R with MMPI subscales was examined for convergent validity and it was found that it was significantly correlated with all scales. The Cronbach Alpha coefficient of the scale varies between .63 and .84 (Dag, 1991). Within the scope of this study, the Interpersonal Sensitivity, Depression, Anxiety and Anger/Hostility scales in SCL – 90 R were used. In the current study, the Cronbach's alpha coefficient of the scales were found as .85 for Interpersonal Sensitivity, .91 for Depression, .92 for Anxiety and .87 for Anger/Hostility.

Personal Information Form (PIF)

PIF prepared by the researchers includes questions about the variables of gender, age, education level, and birth order.

Data Analysis

Data were analysed in SPSS 25.0 environment. Skewness and kurtosis coefficients were calculated to determine whether the data met the normality assumption. It was determined that the skewness and kurtosis values were between -1.5 and +1.5 (Appendix 1), and accordingly, it was accepted that the data had a normal distribution (Tabachnick & Fidell, 2013). Margin of error was determined as .05 in the study. In variance analysis evaluations, homogeneity of the groups was determined by Levene's Test. Depending on the questions to be answered within the scope of the research, the differences between the groups were compared with two-way analysis of variance. As a result of the two-way analysis of variance, the differences between the means of the groups regarding the variables with significant F values were tested with the Scheffe Multiple Comparison Test.

In the study, effect size statistics were examined in order to determine the effect level of the independent variable on the dependent variable (Büyüköztürk, 2018). Multiple regression analysis was used in the study to examine whether psychological symptoms predict inferiority and superiority complexes. Prior to multiple regression analysis, presence of multicollinearity between the predictor variables was checked. Correlations between psychological symptoms were examined first. The highest correlation value (.77) was found between depression and interpersonal sensitivity. Çokluk et al. (2021) stated that there is a multicollinearity problem when the relationship between predictive variables is > .90. In this case, it can be stated that there is not a multicollinearity problem among the predictive variables of the research. In addition, Variance Inflation Factor (VIF) values were examined to determine that there was no multicollinearity problem, Tolerance Value (TV) was calculated for the independent variables, and Condition Index (CI) was examined. Çokluk et al. (2021) stated that when VIF ≥ 10, TV < .10 and CI > 30, multicollinearity problem should be considered. In this context, VIF, TV and CI values of the data were examined, and it was found that there was no multicollinearity problem. Therefore, multiple linear regression analysis was performed.

Results

In this part of the study, firstly, the results of inferiority and superiority complexes of the participants in terms of their demographic characteristics were presented. Next, the results regarding the predictive relationships between interpersonal sensitivity, depression, anxiety and anger/hostility, and inferiority and superiority complex were presented.

The mean inferiority complex scores of female participants who are the first, middle and last child of their family are higher than those of males. Similarly, the mean superiority complex score of female participants who are the first children of their families are also higher than the mean superiority complex score of male participants who are the first children of their families. On the other hand, it can be seen that mean superiority complex score of

men, who are the middle and last children of their families, is higher than that of females (Table 1).

Table 1

Descriptive statistics of inferiority and superiority complex scores of participants with different birth order in terms of gender

Birth order	Gender	Inferiority Complex			Superiority Complex		
		$\bar{X}$	*SD*	*n*	$\bar{X}$	*SD*	*n*
First	Female	24.76	7.40	68	26.01	5.39	68
	Male	22.84	9.39	64	25.95	6.16	64
	Total	23.83	8.45	132	25.98	5.76	132
Middle	Female	23.67	8.12	101	24.67	5.25	101
	Male	22.57	8.28	59	24.88	5.58	59
	Total	23.26	8.17	160	24.75	5.36	160
Last	Female	22.33	7.22	36	23.36	4.30	36
	Male	17.48	6.10	33	24.84	5.64	33
	Total	20.01	7.09	69	24.07	5.01	69
Total	Female	23.80	7.74	205	24.88	5.20	205
	Male	21.61	8.59	156	25.31	5.83	156
	Total	22.85	8.18	361	25.07	5.48	361

According to the results of the two-factor analysis of variance, the mean inferiority complex score of female participants was statistically significantly higher than that of male participants ($F = 8.35$; $p < .05$). In addition, according to the order of birth, it was found that there was a statistically significant difference between the mean inferiority complex scores of the participants ($F = 5.62$; $p < .05$). Comparison test results were examined to determine between which groups the difference was. According to the results, a significant difference was found between the mean inferiority

complex score of adults who were the last children of their families, and the mean scores of those who were the middle and first children. In terms of mean scores, it was found that inferiority complex mean score ($\overline{X}$ = 20.01) of the participants who were the last children of their families was lower than that of the participants who were middle children ($\overline{X}$ = 23.26) and those who were the first children ($\overline{X}$ = 23.83). Eta-square ($\eta 2$) coefficient calculated to determine the effect of birth order on inferiority complex of the participants is .03. This value indicates that the birth order variable has a "small" effect on inferiority complex. On the other hand, it was found that the interaction effect of birth order and gender variables on the inferiority complex scores of the participants was not significant (F = 1.31; p > .05). (Table 2).

Table 2 shows that there was no statistically significant difference between mean superiority complex scores of male and female participants (F = .77; p > .05). Also, Table 2 shows that there is a statistically significant difference between the mean scores of the superiority complex according to the birth order of the participants (F = 3.13; p < .05). Scheffe Multiple Comparison Test results were examined to determine between which groups the difference was. According to the results, a significant difference was found between the mean superiority complex scores of the adults who were the first children of their families and the mean scores of those who were the middle and last children. When the mean scores are examined, it can be seen that superiority complex mean scores of the participants who were the first child of the family were higher ($\overline{X}$ = 25.98) than those of the middle children ($\overline{X}$ = 24.75) and last children ($\overline{X}$ = 24.07). Eta-square ($\eta 2$) coefficient calculated to determine the effect of birth order on superiority complex of the participants is .02. This value indicates that the birth order variable has a "small" effect on superiority complex. In addition, it was found that the interaction effect of birth order and gender variables on the superiority complex scores of the participants was not significant (F = .48; p > .05).

Table 2
Descriptive statistics of inferiority and superiority complex scores of participants with different birth order in terms of gender

Complex	Source	Type III sum of squares	*df*	Mean squre	*F*	*p*	η^2
Inferiority	Corrected model	1281.67	5	256.33	3.98	.00	.05
	Intercept	155032.41	1	155032.41	2411.81	.00	.87
	Birth order	723.32	2	361.66	5.62	.00	.03
	Gender	536.87	1	536.87	8.35	.00	.02
	Birth order*Gender	168.39	2	84.20	1.31	.27	.01
	Error	22819.54	355	64.28			
	Total	212640.00	361				
	Corrected total	24101.22	360				
Superiority	Corrected model	235.34	5	47.06	1.58	.16	.02
	Intercept	194510.93	1	194510.93	6529.81	.00	.94
	Birth order	186.76	2	93.38	3.13	.04	.02
	Gender	23.16	1	23.16	.77	.37	.00
	Birth order*Gender	28.60	2	14.30	.48	.62	.00
	Error	10574.78	355	29.78			
	Total	237737.00	361				
	Corrected total	10810.12	360				

According to the results of multiple linear regression analysis, anxiety, anger/hostility, depression, and interpersonal sensitivity together have a moderate and significant relationship with the inferiority complex scores of

adults (R = .662, R^2 = .438, p < .01). Together, these psychological symptoms explain approximately 44 % of the total variance in inferiority complex. According to the standardized regression coefficient (β), the relative order of significance of the predictor variables on inferiority complex is depression (β = .491), interpersonal sensitivity (β = .260), anxiety (β = -.073), and anger/hostility (β = .017).

The t-Test results regarding the significance of the regression coefficients showed that depression and interpersonal sensitivity variables were significant predictors of inferiority complex, while anxiety and anger/hostility variables are not significant predictors of inferiority complex. In addition, it was determined that psychological symptoms of anxiety, anger/hostility, depression, and interpersonal sensitivity are not significantly associated with adults' superiority complex scores (R = .108, R^2 = .012, p > .01). (Table 3).

Table 3

The results of multiple linear regression analysis

Variable	Complex	B	SE	β	t	*p*	Zero-order r	Partial r
(Constant)		11.748	.779		15.075	.000		
Anxiety Level		-.079	.074	-.073	-1.061	.289	.477	-.056
Anger/Hostility Level	Inferiority	.028	.092	.017	.310	.757	.403	.016
Depression Level	Inferiority	.387	.059	.491	6.534	.000	.637	.327
Interpersonal Sensitivity Level		.335	.076	.260	4.385	.000	.587	.226
(Constant)		24.415	.692		35.280	.000		
Anxiety Level		.029	.066	.040	.432	.666	.047	.023
Anger/Hostility Level	Superiority	.079	.081	.072	.978	.329	.068	.052
Depression Level	Superiority	-.073	.053	-.138	-1.384	.167	.017	-.073
Interpersonal Sensitivity Level		.093	.068	.108	1.373	.171	.066	.073

For the inferiority complex: $R = .662$; $R^2 = .438$; $F_{(4, 356)} = 69.303$; $p = .000$

For the superiority complex: $R = .108$; $R^2 = .012$; $F_{(4, 356)} = 1.042$; $p = .385$

Discussion

The aim of this study was to examine the relationship of inferiority and superiority complex with various socio-demographic variables and psychological symptoms (anxiety, anger/hostility, depression, interpersonal sensitivity).

In the study, the main effect of gender was found to be significant, while the interaction effect of gender-birth order was not found to be significant. Accordingly, the inferiority complex level of women is higher than that of men. In the literature, it is seen that research on inferiority complex were mostly conducted in middle school and high school student population. In a study conducted with secondary school students, it was concluded that women's inferiority complex levels were higher than men, similar to the finding of the present study (Brier, 2018). On the other hand, there are also studies which concluded that inferiority complex levels of men are higher than women (Kalavani, 2017; Poorana-Nancy, & Dharma-Raja, 2018) or that the level of inferiority complex does not differ according to gender (Dhara & Barman, 2020; Kabir & Rashid, 2017; Kolisnyk et al., 2020). The inconsistency in research findings may be caused by various factors such as the difference in the measurement tools used, the age range of the participants and the limitations caused by the sampling method used in the research.

The result that women's inferiority complex levels are higher can be interpreted as different parental behaviors according to gender and cultural factors that pave the way for this. Sampaio & Vieira (2010) showed in their research that girls are exposed to more negative parenting behaviors than boys. It can be stated that there is a cultural basis in Turkey to confirm this finding. As a matter of fact, there are widely known proverbs in Turkey that compare the competencies of girls and boys, placing girls in a lower position in this comparison. Proverbs/idioms such as "Long haired, scatter brained", "Can five girls replace a boy? "Spare the rod and spoil the child" can be a reference source for adults in educating children. This may lead women to perceive themselves as inadequate compared to men and it can increase their inferiority complex levels. The result that the interaction effect of gender-birth order was not significant for inferiority complex brings to mind those other variables such as family dynamics, personal experiences, gender of the first/last born, age difference between siblings, etc. may be effective in explaining inferiority complex level.

In the research, it was concluded that the gender main effect of the superiority complex and the interaction effect of the gender-birth order is not significant. Studies on superiority complex in the literature are quite limited. In a study conducted with individuals aged 17-85 in Ukraine, it was reported that the level of superiority complex did not differ in terms of gender (Kolisnyk et al., 2020). The research finding can be explained by social values and expectations. It can be stated that the social acceptance of behaviors indicating superiority complex (Adler, 1956; Darmstadter, 1949) is low in Turkish society. In other words, in Turkish society, being respectful, tolerant, and humble is among the basic values that every individual should have, in contrast to the superior behaviors (Ministry of National Education [MoNE], 2011; Toprak et al., 2020). Therefore, the findings obtained in the research overlap with societal values and expectations in Turkey.

Another finding in the study is related to birth order. Accordingly, it was determined that the mean scores of inferiority complex of adults who were the last children were lower than the adults who were the first and middle children. This result is different from the expected result. One of the causes of inferiority complex is having been spoilt in childhood (Adler, 1932; Wright, 1925). Last children are children who are more spoilt by the mother than the other children (Adler, 1956) and who are always the youngest (Leman, 2009a). These factors may lead to the development of inferiority complex. However, factors such as the fact that last children have a lot of stimulation and a chance to compete (Adler, 1956); positive changes in the way parents take care of their children (Sampaio & Vieira, 2010), improved parenting skills of parents in time, the presence of siblings closer in age and competence instead of parents "who do everything well" and adults may be preventing the development of inferiority complex in last children.

Another finding in the study is that adults who are first children have a higher superiority complex level than adults who are middle and last children. According to the results of the research, first children are under stricter parental supervision (Kim & Wang, 2021; Ng et al., 2014), they are sixfold more likely to be punished by their parents for their failures in the

educational process compared to last children (Hotz & Pantano, 2015). First children are more disadvantaged in terms of maternal behavior compared to second children (Moore et al. 1997), and they are more likely to be physically abused by their fathers than middle and last children (Sampaio & Vieira, 2010). Additionally, the family environment of the first child is quite different from the environment in which other children are born. This is because the first children have only their parents as role models in the first years of their life, they are surrounded by many adults, and the first children try to "be capable like them" even though it is impossible (Leman, 2009a; 2009b). Therefore, all these factors can prepare a suitable basis for the first children to make negative evaluations of their competencies. In addition to these factors, with the birth of the sibling, first children gain older brother/sister status. It is understandable that first children have a high level of superiority complex compared to other children due to the admiration for the power of the lost throne (Adler, 1952), the effort to come to the fore (Adler, 1984) and the advantageous position brought by the new social role.

Another issue discussed in the study is the relationship between psychological symptoms and inferiority and superiority complex. Anxiety, anger/hostility, depression, and interpersonal sensitivity discussed in the study together explain approximately 44 % of the total variance in inferiority complex. This finding is consistent with previous research (Kabir & Rashid, 2017; Lee, 2008; Wang et al., 2012) and the Adlerian theory, which suggests that anxiety, anger, and depression may be indicators of the inferiority complex (Adler, 1932; 1956). Due to the nature of the inferiority complex, the individual who constantly reaches a negative conclusion about his or her competencies in comparison with others may experience various psychological symptoms, in other words, some psychological symptoms experienced by adults can be associated with inferiority complex.

Surprisingly, psychological symptoms are not a significant predictor of superiority complex. This finding is not consistent with Adlerian theory (Adler, 1932; 1945). Although superiority complex includes an approach that harms interpersonal relations (Adler, 1932), individuals with superiority

complex perceive themselves in a more advantageous position than others. In this case, the superiority perceived by the individual may gain a function that contributes to the well-being of the individual. In fact, it can be central to well-being (Headey & Wearing, 1988). Besides, superiority complex represents the next stage after the inferiority complex (Adler, 1945; 1956). Therefore, the developmental course of superiority complex is more complex than that of inferiority complex. Therefore, the obtained result may be related to the limited number of psychological symptoms in this study. There may be different psychological symptoms which are not examined within the scope of the research, but which may explain superiority complex. Another explanation in this regard may be related to the measurement tool used. In the study, the level of psychological symptoms was determined by using the SCL – 90 R. In this context, the findings obtained in the study should be evaluated by limiting to what the measurement tool measures. Future studies that will determine symptom levels with different scales may expand the findings on this subject and allow the findings to be examined comparatively.

Limitations and Recommendations

Results of the study should be evaluated by considering its limitations. Within the scope of the study, 361 adults were reached through convenient sampling method. The sample size is sufficient and acceptable; however, increasing the sample size and using probability sampling methods in future studies will further increase the generalizability of the results. Inferiority and superiority complex is related to individuals' childhood family environment (Adler, 1952). Child-rearing practices in Turkey may vary according to geographical regions (Ayçiçeği-Dinn & Sunar, 2017). Therefore, in future studies, ensuring the participation of individuals from different geographical regions in the study will enable interregional comparisons and also enable psychological counsellors and clinicians to conduct field studies on the subject. A limited number of psychological symptoms and socio-demographic variables were discussed within the scope of the study. Researchers can plan new studies that examine the relationship of inferiority and superiority

complex with different psychological symptoms and socio-demographic variables. This study is limited to adults aged 18 and over. Research on inferiority and superiority complex draws attention to adolescents (Kalavani, 2017; Poorana Nancy & Dharma-Raja, 2018). Therefore, examining inferiority and superiority complex in adolescents will make significant contributions to literature.

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Ethical Approval

All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki Declaration and its later amendments or comparable ethical standards. The research was conducted with the permission of Sakarya University Social and Human Sciences Ethics Committee (Document number: E-61923333-050.99-122425)

Conflict of Interest

The authors declared no conflicts of interest with respect to the authorship or the publication of this article.

Informed Consent

Informed consent was obtained from all individual participants included in the study.

Data Availability Statement

The datasets generated during and/or analyzed during the current study are available from the corresponding author on reasonable request.

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Appendix A

Kurtosis and skewness values of the data

Scales	Kurtosis	Standard Error	Skewness	Standard Error
Inferiority Complex	.167	.256	.551	.128
Superiority Complex	.298	.256	.220	.128
Anxiety	.492	.256	.982	.128
Anger/Hostility	1.260	.256	1.364	.128
Depression	-.034	.256	.526	.128
Interpersonal Sensitivity	.044	.256	.448	.128