GENDER DIFFERENCES IN UNIVERSITY STUDENTS: EXPLORING LIFE SATISFACTION THROUGH META-ANALYSIS

Abstract: This study aims to determine the life satisfaction of university students on the basis of gender. Using a quantitative perspective, the study aims to assess the effects of gender on life satisfaction and aims to provide a comprehensive understanding. SMD analysis method was used to evaluate the effect size of life satisfaction based on gender. In this study, 40 studies with appropriate data for the variables were included in the analysis. The total sample consisted of 20,063 students, of which 12,564 were female and 7,499 were male. According to the REM results, there was a statistically significant and small effect size in favor of women (Cohen's d=0.20). There was moderate heterogeneity in terms of overall effect size (Q=117.193, p=0.000; I² =66.722). The heterogeneity test of the studies was Q=117,193. In addition, it was found to have a heterogeneous structure p=0,000 (p<.05). It was found to be moderate heterogeneity I² =66,722. Related methods were used to understand the publication bias. As a result of this study, a statistically significant effect size in terms of gender and a small effect size in favor of women (Cohen's d=0.20) were found. It may be recommended that future research on this subject should include qualitative studies on why life satisfaction levels are relatively low in male students and relatively high in female students.

Keywords: University students, life satisfaction, gender, meta-analysis

Introduction

In the academic year 2022-2023, a total of 6,950,142 students (3,533,166 female and 3,416,976 male) are studying in Turkey (Higher Education Information Management System, 2023). This number means 8.14% of the country's population. Research on the life satisfaction of university students is of great importance in the fields of educational sciences and psychology. These studies can have a significant impact on students' academic achievement, social relationships and overall quality of life. Also, gender differences are an important factor that can affect individuals' life satisfaction. Male and female university students may have different social, cultural and psychological experiences. These differences may also affect their life satisfaction in different ways. For example, gender roles and expectations, methods of coping with stress, access to social support systems and academic experiences may differ according to gender, which may be among the factors affecting life satisfaction.
In addition, the university period represents an important transition stage in the lives of individuals at the beginning of young adulthood. In this period, there are various factors affecting students' life satisfaction such as gender, perceived academic achievement, perceived economic status, expectations from the future, religious beliefs and loneliness (Dost, 2007). In this framework, the effect of gender on life satisfaction in university students constitutes an important research area. Gender has an impact on individuals' quality of life, experiences and expectations. Life satisfaction is a comprehensive concept that expresses how satisfied an individual is with his/her life in general. Satisfaction means fulfillment of some desires, satisfaction, contentment, fulfillment, i.e. the state of being satisfied with what exists (TDK, 2022). Satisfaction with one's life can be referred to as life satisfaction, which includes being satisfied with one's life, being able to meet one's basic needs, being able to realize one's personal goals and a general feeling of satisfaction. Increasing life satisfaction is an important issue (Myers & Diener, 1995). Life satisfaction, which constitutes the dimensions of life (Simsek, 2011), is affected by living conditions, life goals and individual characteristics (Lyubomirsky, Sheldon, & Schkade, 2005). An individual's life satisfaction is affected by various factors (Yetim, 1991). It is important to determine the factors affecting the life satisfaction of university students. This study aims to determine the life satisfaction of university students on the basis of gender. Using a quantitative perspective, the study aims to evaluate the effects of gender on life satisfaction and aims to provide a comprehensive understanding. The findings of the study can guide the development of intervention strategies and programs to transform university life into a more positive experience for male and female students.

When the studies on life satisfaction in university students are examined in the literature, it is seen that life satisfaction does not differ significantly according to gender in some studies (Avsar, 2020; Basaran, 2020; Bayrak, 2019; Bektas, 2014; Berk tas, 2019; Buyukcorak, 2018; Elkin, 2020; Eskici, 2022; Guler, 2015; Kalfa, 2017; Karakose, 2019; Kerimov, 2020; Keskin, 2023; Kiratli, 2018; Kucukkeskin, 2021; Orucoglu, 2020; Ozger, 2019; Parvizi, 2021; Sahin, 2018; Turk, 2021; Usta, 2022; Yumusak, 2019), whereas in some studies there is a difference in favor of women (Arslan, 2021; Aydiner, 2011; Bicener, 2020; Bilici, 2020; Caglayaner, 2020; Demirtas, 2021; Eryilmaz, 2012; Isleyen, 2021; Kiz, 2021; Kandemir, 2022; Karatekin, 2013; Kocak, 2014; Kokcu, 2019; Kucuker, 2016; Oruc, 2023; Oz, 2019; Sarica, 2019; Topbasoglu, 2016). Recently, there has been increased interest in how gender differences affect university students' life satisfaction. Although there are many quantitative studies on the relationship between life satisfaction and gender among university students, there are no meta-analysis studies on this subject. In order to overcome this deficiency, this study aims to evaluate the effect of gender on life satisfaction by meta-analysis method based on the studies examining life satisfaction according to the gender of university students in graduate theses in Turkey. The aim is to determine the effects of gender differences on life satisfaction among university students and to measure the magnitude of these effects. By bringing together the results of different studies, the study aims to identify a general trend and analyze the factors underlying this trend. The importance of this study is that it reveals the gender differences affecting the life satisfaction of university students and provides a comprehensive contribution to the scientific literature on this subject. Understanding the effects of gender differences on life satisfaction can provide important information for university administrations, guidance and psychological counseling services, and policy makers. This information may help to develop more effective strategies and interventions to improve students' quality of life.

**Method**

In this study, meta-analysis method is used for a systematic review and analysis of master's and doctoral theses conducted in Turkey. Meta-analysis is an analysis method used to reach a general conclusion by bringing together the results of different studies on similar topics. This approach refers to a process in which various analyses are collected and integrated (Cumming, 2012; Dincer, 2021; Ellis, 2012; Petticrew & Roberts, 2006). Meta-analysis will provide the opportunity to bring together the findings of various studies and statistically analyze these data by addressing the effects of gender on
life satisfaction from a broader perspective.

**Literature review**

In this study, the data bank of the Council of Higher Education Thesis Center (YKBTM) was used. The data of the study consisted of authorized and full-text dissertations on life satisfaction among university students in Turkey completed between 2011 and 2023 in YKBTM. By typing the word "life satisfaction" as the search word in the YKBTM, 973 studies were reached. Among these, 40 studies were included in the analysis, 74 of which included data suitable for the variables of this study. The sample of the study consisted of 12564 female and 7499 male university students totaling 20063.

The selection criteria for meta-analysis are as follows:

1. Publications must have access to the full text in the Thesis Center of the Council of Higher Education.
2. The analyzed studies must have numerical data (sample size, mean values, standard deviation) in order to be evaluated with the meta-analysis method.
3. The studies to be selected should have analyzed life satisfaction levels among university students from a gender perspective.
4. The research sample should only consist of university students in Turkey.
5. Studies should include scores obtained from the scales used to measure life satisfaction levels.

The flow diagram of the selection process of the meta-analyzed studies is given in Figure 1.

**Figure 1. Flow diagram for the process of including studies in meta-analysis**

![Flow diagram](image)

**Findings**

**Investigation of Life Satisfaction in University Students by Gender**

This study aims to determine the life satisfaction of university students on the basis of gender. The Standardized Mean Difference (SMD) method was used to determine the magnitude of the effect of life satisfaction by gender. For the analysis, 40 studies contain data suitable for the variables of the
study. The sample consisted of a total of 20,063 students, of which 12,564 were female and 7,499 were male. According to the fixed effects model (FEM), a statistically significant small effect size was found in favor of females (Cohen's $d=0.20$) $[0.15\leq effect\ coefficient\ (g\ or\ d)<0.40]$, which is in line with Dincer's (2021) small effect size range. In terms of overall effect size, moderate heterogeneity was observed ($Q=117.193, p=0.000; I^2 =66.722$).

**Publication Bias**

Publication bias plays an important role among the factors that may affect the results in meta-analyzed studies. Selecting only studies that find significant differences or lack of objective inclusion criteria may lead to publication bias (Borenstein, Hedges, Higgins, & Rothstein, 2013; Dincer, 2021). In order to understand publication bias, the following methods were applied respectively.

**Table 1. Gender - Life Satisfaction (Orwin’s Fail-Safe N)**

<table>
<thead>
<tr>
<th>Variables</th>
<th>Values</th>
</tr>
</thead>
<tbody>
<tr>
<td>Std. diff in means in observed studies</td>
<td>0.19882</td>
</tr>
<tr>
<td>Criterion for a ‘trivial’ std diff in means</td>
<td>0.01000</td>
</tr>
<tr>
<td>Mean std diff in means in missing studies</td>
<td>0.00000</td>
</tr>
<tr>
<td>Number missing studies needed to bring std diff in means under 0.01</td>
<td>756,00000</td>
</tr>
</tbody>
</table>

According to Orwin’s Fail-Safe N=756 result, 716 additional studies are needed for the average effect size of 0.19882 to reach 0.01000. However, the 40 studies included in the meta-analysis include all the studies with appropriate data for the study variables and the result obtained is more than 17 times more than the studies included in the meta-analysis. Therefore, the inclusion of 716 studies is not possible and this finding is considered as an indication that there is no publication bias in the study.

**Table 2. Gender - Life Satisfaction Egger Regression Coefficient**

<table>
<thead>
<tr>
<th>Egger’s Regression Coefficient</th>
<th>Values</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>0.49913</td>
</tr>
<tr>
<td>Standard error</td>
<td>1.15923</td>
</tr>
<tr>
<td>95% lower limit (2-tailed)</td>
<td>-1.84761</td>
</tr>
<tr>
<td>95% upper limit (2-tailed)</td>
<td>2.84587</td>
</tr>
<tr>
<td>t-value</td>
<td>0.43057</td>
</tr>
<tr>
<td>Df</td>
<td>38,00000</td>
</tr>
<tr>
<td>P-value (1-tailed)</td>
<td>0.33461</td>
</tr>
<tr>
<td>P-value (2-tailed)</td>
<td>0.66921</td>
</tr>
</tbody>
</table>

According to the Egger test results ($p=0.66921$), it is accepted as an indication that there is no publication bias in the study. The fact that the funnel plot is symmetrical also supports this. The probability of publication bias is shown in the funnel scatter plot in Graph 1 below. In the funnel scatter plot, the Y axis represents standard error values and the X axis represents effect sizes.
Funnel scatter results, which visually summarize the publication bias of the studies used in meta-analyses, are presented in Graph 1 of this study (Cooper, Hedges, & Valentine, 2009; Dincer, 2021). As can be observed in Graph 1, the majority of the 40 studies in this study exhibited a symmetrical distribution. It is expected that each of the studies included in the study will spread symmetrically and within the funnel lines (Dincer, 2021). If publication bias was present in this study, the majority of the studies would be concentrated in only one part of the vertical line or at the bottom of the funnel shape, but this was not observed (Borenstein, Hedges, Higgins, & Rothstein, 2009).

**Key Analysis Findings**

The main purpose of this study is to evaluate whether there is a difference between men and women in terms of life satisfaction levels of university students. In other words, it is to understand the effect of gender on life satisfaction of university students. The effect sizes of life satisfaction of university students are shown in Graph 2 below according to gender variable.
According to the REM results, a small statistically significant effect size was found in favor of women (Cohen's d=0.20) [0.15≤effect coefficient (g or d)<0.40], which is in line with Dincer's (2021) small effect size range. This result, which has a lower limit of 0.151 and an upper limit of 0.226, shows that there is a difference in favor of females, although statistically significant, and that this difference is in the small effect level range. It can be stated that female students may have higher life satisfaction than male students.

The basic analysis and heterogeneity test results for gender - life satisfaction are given in Table 3.
According to the FEM of the 40 studies included in the study, the mean effect size value was 0.199, the standard error (SE) was 0.015, the lower limit of the confidence interval was 0.169 and the upper limit was 0.228. The heterogeneity test of the studies was $Q=117.193$. In addition, $p=0.000$ ($p<.05$) was found to be heterogeneous. $I^2=66,722$ moderate heterogeneity was found.

### Discussion Conclusion and Recommendations

This study was conducted to determine the life satisfaction of university students on the basis of gender. SMD analysis method was used to calculate the effect size of life satisfaction by gender. Forty studies containing data suitable for the variables of this study were included in the analysis. In this study, the sample consisted of a total of 20,063 students, of which 12,564 were female and 7,499 were male. According to the REM results, a small statistically significant effect size was found in favor of women (Cohen's $d=0.20$) [$0.15 \leq$ effect coefficient (g or $d)<0.40$], which is in line with the small effect size range stated by Din et al. (2021). The heterogeneity test of the studies was found to be $Q=117.193$. In addition, $p=0.000$ ($p<.05$) was found to be heterogeneous. $I^2=66,722$ moderate heterogeneity was found. Related methods were used to understand the publication bias. According to Orwin's Fail-Safe $N=756$ result, 716 additional studies are needed for the average effect size of 0.19882 to reach 0.01000. However, the 40 studies included in the meta-analysis include all studies with data appropriate for the study variables and the result obtained is more than 17 times the number of studies included in the meta-analysis. Therefore, the inclusion of 716 studies was not possible and this finding was considered as an indication that there was no publication bias in the study. According to Egger's test results ($p=0.66921$), it was accepted as an indication that there was no publication bias in the study. The fact that the funnel plot is symmetrical also supports this.

When the studies on life satisfaction in university students are examined in the literature (Arslan, 2021; Aydiner, 2011; Bicener, 2020; Bilici, 2020; Caglayaner, 2020; Demirtas, 2021; Eryilmaz, 2012; Isleyen, 2021; Kaziz, 2021; Kandemir, 2022; Karatekin, 2013; Kocak, 2014; Kokcu, 2019; Kucuker, 2016; Oruc, 2023; Oz, 2019; Sarica, 2019; Topbasoglu, 2016) stated that there was a statistically significant difference and women's life levels were higher than men's. Unlike these results (Avsar, 2020; Basaran, 2020; Bayrak, 2019; Bektas, 2014; Berkta, 2019; Buyukcorak, 2018; Elkin, 2020; Eskici, 2022; Guler, 2015; Kalfa, 2017; Karakose, 2019; Kerimov, 2020; Keskin, 2023; Kirati, 2018; Kucukkeskin, 2021; Orucoglu, 2020; Ozger, 2019; Parizi, 2021; Sahin, 2018; Turk, 2021; Usta, 2022; Yumusak, 2019) did not find a statistically significant difference between life satisfaction levels of university students according to gender. As a result of this study, a statistically significant and small effect size (Cohen's $d=0.20$) was found in favor of women.

The importance of this study is that it reveals the gender differences affecting the life satisfaction of university students and makes a comprehensive contribution to the scientific literature on this subject. Understanding the effects of gender differences on life satisfaction can provide important information for university administrations, guidance and counseling services, and policy makers. This information may help to develop more effective strategies and interventions to improve students' quality of life. In addition, qualitative research on why
life satisfaction levels are relatively low in male students and relatively high in female students may be recommended for future research on the subject.

**Ethical permissions for the research**

This study fully complied with all the rules in the "Directive on Scientific Research and Publication Ethics of Higher Education Institutions". In addition, there were no violations of "Actions Contrary to Scientific Research and Publication Ethics".

**References**


Biographical notes:

Nuri Erdemir completed his bachelor's degree at Sakarya University Faculty of Education in Educational Sciences Department in 2009, master degree on education at Gaziantep University in 2012 and PhD degree on Guidance and Psychological Counseling at Inonu University in 2021. His fields of study are educational psychology, guidance in schools, psychological counseling and positive psychology. He has been working as a lecturer at Inonu University Faculty of Education since 2014.

https://orcid.org/0000-0002-5106-7884

Ali Kış completed his bachelor's degree at Middle East Technical University, Faculty of Education in Foreign Language Education Department in 1994, master degree and PhD degree on educational administrative at Inonu University in 2009 and 2013 respectively at Inonu University. His fields of study are educational leadership, management and administration. He has been working as a lecturer at Inonu University, Faculty of Education since 2014.

https://orcid.org/0000-0003-4768-3964