



# The moderation effect of economic, social and cultural status on mediating role of adaptability and intercultural sensitivity in the relationship between self-efficacy and attitudes towards immigrants in Türkiye

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## Abstract

This study was conducted to explore whether and how 15-year-old students' economic, social and cultural status (ESCS), which is the indicator of the socio-economic status, moderate the mediating role of adaptability and intercultural sensitivity in the link between self-efficacy and attitudes towards immigrants in Türkiye. The study aimed to answer several research questions, including whether the intercultural sensitivity and adaptability mediate the relationship between self-efficacy and attitudes towards immigrants, and whether the students' level of the ESCS moderates these effects. The study utilized data from PISA conducted in 2018 and involved 6890 participants from 186 schools in Türkiye. Missing values and outliers in the data set were removed, and data of 6569 15-year-old students were analyzed. Before Conditional Process Analysis, regression assumptions were checked and no problems were observed. The Conditional Process Analysis was conducted to determine the direct and indirect effects of students' self-efficacy on their attitudes towards immigrants through the intercultural sensitivity and adaptability with the condition that no mediator causally influences another. The study found that self-efficacy was a significant predictor of the intercultural sensitivity, adaptability, and attitudes towards immigrants. The results of the mediation analyses showed that both the intercultural sensitivity and adaptability partially mediated the relationship between the self-efficacy and attitudes towards immigrants. Notably, the indirect effect through the intercultural sensitivity was larger than that of through adaptability, indicating that intercultural sensitivity plays a stronger mediating role in this relationship. The conditional effects of the self-efficacy on intercultural sensitivity, adaptability and attitudes towards immigrants varied depending on the level of the ESCS. The conditional direct effect of the self-efficacy on attitudes towards immigrants was significant for all levels of the ESCS, with the effect being strongest for individuals with relatively low ESCS and weakest for individuals with relatively high ESCS. The results also showed that students' ESCS moderated the indirect effect of the self-efficacy on attitudes towards immigrants through the intercultural sensitivity and adaptability. This means that the relationship between self-efficacy and attitudes towards immigrants was not only mediated by intercultural sensitivity and adaptability, but also influenced by the level of the ESCS. Therefore, findings of the study suggest that the relationship between self-efficacy, the ESCS, intercultural sensitivity, adaptability, and attitudes towards immigrants is complex and multifaceted, and that it may depend on various contextual and individual factors.

**Keywords** Attitudes towards immigrants · Self-efficacy · Adaptability · Intercultural sensitivity · Socioeconomic status · Moderation

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## Introduction

By the end of 2020, complexity and protracted nature of today's conflicts show that forced displacement has reached a level unprecedented; approximately 82.4 million people are now uprooted around the world as a result of persecution, conflict, generalized violence or human rights violations-violation of human rights (United Nations High Commissioner for Refugees [UNHCR], 2022). The Syrian Civil War began in 2011. It has subsequently become one of the worst humanitarian crises of the twenty-first century. Türkiye hosts the largest refugee population of 3.7 million Syrians under temporary protection and over 320 thousand refugees and asylum-seekers under international protection (UNHCR, 2022). As of 2021, more than 40% of the world's refugees were children (UNICEF, 2022). One in six of all child refugees (under UNHCR mandate) live in Turkey, most of them arriving from Syria – making it the largest single host country of child refugees in the world (UNICEF, 2022).

After the outbreak of the civil war in 2011, the presence of Syrian immigrants who sought refuge in Türkiye has become a highly debated topic in domestic politics. There has been a multiplication and reciprocation of reactions, both on social media and in political circles, asserting that these immigrants have “invaded” the country and pose a significant security threat. Particularly, young Syrian individuals have expressed their desire to acquire Turkish citizenship and live in Türkiye as full members of society, rather than as foreigners (Erdoğan, 2021). However, achieving harmony among the immigrant population is an extremely complex task, and it is not possible to establish a universally applicable model, despite the mention of general principles. As decision-makers and implementers, the state plays a crucial role in the integration process of immigrants. However, the success of the state's compliance policy hinges upon social acceptance and support. The attitude of the local society towards immigrants stands as one of the most crucial factors for fostering a peaceful and respectful coexistence. It is suggested that migration movements will provide valuable data for informing the development of educational systems and social adaptation policies in Türkiye.

As the number of immigrants increases worldwide, their presence is becoming more visible in many countries. This increased visibility has led to debates about immigration policies and the treatment of immigrants. It also leads various attitudes towards immigrants. Overall, attitudes towards immigrants are complex and can be influenced by a range of factors such as economic, political, social,

cultural, and individual characteristics (Bansak et al., 2016; Dražanová & Gonnot, 2023). They are shaped by the interaction of social, economic, political and cultural factors and should be evaluated together with the effect of previously mentioned factors.

In recent years, research on attitudes towards immigrants has focused on economic and socio-psychological factors (Gu et al., 2022; Dražanová & Gonnot, 2023). According to the Programme for International Student Assessment (PISA), 2018 results, which measured the global competence of 15-year-old students in 27 countries and economies, there is a positive relationship between adaptability, self-efficacy, and attitudes towards immigrants (OECD, 2020b). Adaptability, self-efficacy, and attitudes towards immigrants are three important aspects of global competence, which is the ability to interact with people from different cultures and backgrounds, and to understand and appreciate different perspectives and worldviews (Gu et al., 2022). However, the relationship between adaptability, intercultural sensitivity, self-efficacy, and attitudes towards immigrants is not the same for all students. It may vary depending on students' characteristics, such as their socioeconomic status, and cultural background, as well as the contextual factors, such as the curriculum, the school climate, and the social environment. Therefore, it is important to consider the individual and situational differences when studying the relationship between these variables.

Research has shown that many factors affect adolescents' attitudes towards immigrants. These factors are personal characteristics such as age, gender, self-efficacy, adaptability, attitude, and interaction with other cultures and experiences, as well as contextual factors such as family, friends, school, media, and political climate. Recent studies underline the importance of the variables such as self-efficacy, cultural sensitivity, and adaptability on adolescents' attitudes towards immigrants (Sorthaix & Lönnqvist, 2014; Gönültaş & Mulvey, 2019; OECD, 2020b; Wang & Kim, 2021; Albarello et al., 2023). These cognitive characteristics may promote a more flexible and adaptable cognitive framework, allowing individuals to perceive immigrants in a more nuanced and less stereotypical way. Previous research have revealed that both self-efficacy and adaptability can be important predictors of attitudes towards immigrants (Sorthaix & Lönnqvist, 2014; OECD, 2020b; Wang & Kim, 2021). These cognitive traits may foster a more flexible and adaptive cognitive framework, allowing individuals to perceive immigrants in a nuanced and less stereotypical manner. The study conducted by Albarello et al. (2023) suggests that promoting self-efficacy, adaptability and intercultural sensitivity may be important features in shaping positive attitudes towards immigrants among college students.

## Theoretical background

### Self-efficacy and attitudes towards immigrants

Self-efficacy is the belief in one's ability to achieve a goal or perform a task. It is an important psychological factor that influences human behavior, such as motivation, learning, and performance. Self-efficacy can also affect one's attitudes towards immigrants, which are the feelings and opinions that people have about immigrants and immigration. In the complex tapestry of human interactions, the relationship between self-efficacy and attitudes towards immigrants represents a crucial intersection where individual beliefs and societal dynamics converge (Schachner et al., 2017; Bentsen, 2022; Albarello et al., 2023). However, it is important to note that the relationship between self-efficacy and attitudes towards immigrants is complex and multifaceted. In the context of attitudes towards immigrants, research suggests that higher levels of self-efficacy may be associated with more positive attitudes towards immigrants among adolescents. On the other hand, some studies indicate that self-efficacy is negatively associated with attitudes towards immigrants. For example, Schachner et al. (2017) state that self-efficacy will positively affect attitudes towards immigrants, when there is a perception that immigrants provide benefits to the host society such as economic growth, cultural diversity and innovation. However, they stated that self-efficacy negatively affects attitudes towards immigrants, when there is a perception that immigrants pose risks such as competition, conflict and crime for the host society. Previous researches suggest that self-efficacy may play an important role in shaping adolescents' attitudes towards immigrants (Titzmann & Jugert, 2017; Albarello et al., 2023). A study by Wang and Kim (2021) found that self-efficacy was positively related to attitudes towards immigrants among Chinese university students. Albarello et al. (2023) conducted a study to investigate the relationship between adolescent attitudes towards immigrants and perceived self-efficacy and perceived contact with immigrants. The study found that adolescents with higher levels of perceived self-efficacy and positive perceived contact with immigrants tended to hold more positive attitudes towards them. One study found that higher levels of self-efficacy were associated with greater levels of intergroup contact, which in turn predicted more positive attitudes towards immigrants (Bentsen, 2022). Intergroup contact refers to interactions between members of different social groups, and is considered to be a key factor in reducing prejudice and increasing positive attitudes towards outgroups, such as immigrants. High levels of self-efficacy are often associated with a greater sense of control over one's environment, fostering

an openness to new experiences and perspectives. Individuals with a strong belief in their ability to adapt and navigate through diverse social settings are more likely to approach interactions with immigrants with curiosity and an open mind. In contrast, lower self-efficacy may lead to feelings of insecurity and a reluctance to engage with those perceived as different, contributing to negative attitudes towards immigrants. A study by Chen et al. (2021) found that self-efficacy in cross-cultural interactions was positively associated with intercultural sensitivity among Chinese adolescents who participated in an international exchange program. The study suggested that adolescents with high self-efficacy in cross-cultural interactions are more likely to be aware of their own and others' cultural differences and similarities, to have more knowledge about different cultures, to have more positive attitudes toward cultural diversity, to have more skills to communicate and interact with people from different cultures, and to have more behaviors that show respect and appreciation for cultural differences and similarities.

### Adaptability and attitudes towards immigrants

Adaptability refers to an individual's or a society's ability to adjust to new circumstances, changes, or different cultural norms. When individuals or societies are more adaptable, they tend to have more positive attitudes towards immigrants. This is because adaptability allows individuals to be open-minded, accepting of diversity, and willing to embrace new ideas and cultures (Deardorff, 2006; OECD, 2020b; Gu et al., 2022; Albarello et al., 2023). Adaptable individuals are more likely to be receptive to the experiences and perspectives of immigrants, leading to more positive attitudes towards them. Conversely, individuals or societies with low adaptability may exhibit more negative attitudes towards immigrants. They may resist change, fear cultural differences, and perceive immigrants as a threat to their cultural, social, or economic stability. Lack of adaptability can lead to prejudice, discrimination, and exclusionary attitudes towards immigrants (OECD, 2020b; Gu et al., 2022; Albarello et al., 2023). According to the PISA, 2018 results, adaptability was positively associated with self-efficacy and attitudes towards immigrants. This means that students who were more adaptable tended to have higher self-efficacy and more positive attitudes towards immigrants than students who were less adaptable. Adaptable students may also be more respectful and empathetic towards people from different cultures and traditions, which can foster their appreciation and acceptance of diversity (Gu et al., 2022). Likewise, Albarello et al. (2023) present that adolescents who report higher levels of adaptability also report more positive attitudes towards immigrants. Adaptability can help students cope with the challenges and opportunities of living in a diverse

and interconnected world. It is stated that adaptable students may be more open to learning from and collaborating with people from different backgrounds and perspectives, which can increase their confidence and competence in various areas (Gu et al., 2022).

Overall, while limited research has explored the relationship between self-efficacy, adaptability and attitudes towards immigrants among adolescents, and available studies suggest a positive association between these factors. Previous researches suggest that individuals with high self-efficacy and adaptability tend to have more positive attitudes towards immigrants (OECD, 2020b; Gu et al., 2022; Albarello et al., 2023).

The study by Schmidt (2021) found that among Polish adolescents, higher levels of self-efficacy and adaptability were associated with more positive attitudes towards immigrants. The relationship between self-efficacy, adaptability, and attitudes towards immigrants may also be explained by several factors. For example, individuals with high self-efficacy and adaptability may be more open-minded and flexible in their attitudes and beliefs, including towards individuals from different cultural backgrounds (Schmidt, 2021). Additionally, these individuals may be more confident in their ability to navigate intercultural interactions, which can foster greater comfort and acceptance of diversity (Wang and Kim (2021). In another study by Ocampo et al. (2022), it was found that adaptability mediated the relationship between cultural intelligence and attitudes towards immigrants among adolescents. Cultural intelligence, which includes the ability to interact effectively with people from different cultures, may be associated with adaptability and thus indirectly influence attitudes toward immigrants (Ocampo et al., 2022). Similarly, a study on the relationship between self-efficacy and attitudes towards immigrants found that adaptability played a partial mediating role between these two factors (Titzmann & Jugert, 2017). A study by OECD (2020a) found that learning how people from different cultures can have different perspectives on some issues was positively related to cognitive adaptability, self-efficacy and openness to diversity among students from 150 schools across the world. A study by OECD (2020b) found that speaking two or more languages was positively associated with awareness of global issues, self-efficacy regarding global issues, cognitive adaptability, interest in learning about other cultures, and respect for people from other cultures, positive attitudes towards immigrants, awareness of intercultural communication and the ability to identify reliable sources of information about other countries.

### **Intercultural sensitivity and attitudes towards immigrants**

Intercultural sensitivity refers to an individual's awareness and understanding of cultural differences and their ability

to interact effectively with people from diverse cultures. Another common definition describes intercultural competence as the “ability, based on one's own intercultural knowledge, as well as the skills and attitudes to successfully and appropriately interact with individuals and groups from other cultures (Deardorff, 2006).

Intercultural sensitivity is an important skill for living in an interconnected and diverse world. It can help people to overcome cultural barriers, to foster mutual understanding and cooperation, and to promote global citizenship and social justice. It is the ability to perceive, understand, and appreciate cultural differences and similarities. It helps people to communicate and interact effectively with people from different cultures, backgrounds, and perspectives. There is a direct relation between intercultural sensitivity and attitudes towards immigrants in such a way that they both reflect how people perceive and interact with people from different cultures and backgrounds. Higher levels of intercultural sensitivity are associated with more positive attitudes towards immigrants. People who are more interculturally sensitive tend to be more empathetic, respectful, and dialogical, and less stereotypical, biased, and prejudiced towards immigrants (Naveed & Wang, 2021).

According to some studies, cultural sensitivity can foster more positive and tolerant views of immigrants and immigration, as it can reduce the perception of cultural threat and increase the recognition of common humanity. For example, one study found that cultural sensitivity was associated with lower levels of prejudice and discrimination towards immigrants, and higher levels of empathy and willingness to help them (Esses, 2018). Another study found that cultural sensitivity was related to more positive attitudes towards immigrants who were culturally less similar, such as Muslims in Europe (Verkuyten, 2021).

However, cultural sensitivity may not always lead to positive attitudes towards immigrants, as it may also depend on other factors, such as personal values, political context, and migrant characteristics. For example, some people may value their own culture more than others, and may perceive immigration as a threat to their cultural identity and norms. These people may hold more negative attitudes towards immigrants, regardless of their level of cultural sensitivity. Moreover, some people may be influenced by the political climate and the media coverage of immigration issues, which may shape their attitudes towards immigrants in a more negative or positive direction (Verkuyten, 2021). Additionally, some people may differentiate between types of immigrants based on their country of origin, religion, or legal status, and may have different attitudes towards them depending on these characteristics (Verkuyten, 2021).

A person's sensitivity to other cultures can affect his or her attitude towards immigrants in several ways. Research has shown that both self-efficacy and intercultural sensitivity

can be important predictors of attitudes towards immigrants (Sorthaix & Lönnqvist, 2014). The results of the study by Chen et al. (2021) show that intercultural sensitivity plays an important role in mediating the effects of self-efficacy on attitudes towards immigrants. The results of the study indicated that self-efficacy was positively associated with intercultural sensitivity and attitudes towards immigrants. Furthermore, intercultural sensitivity partially mediated the relationship between self-efficacy and attitudes towards immigrants. Individuals with higher levels of self-efficacy were more likely to have greater intercultural sensitivity, which in turn was associated with more positive attitudes towards immigrants. Similarly, people who have greater confidence in their ability to interact effectively with people from diverse cultures are more likely to have positive attitudes towards immigrants, and this relationship is partially explained by their greater intercultural sensitivity.

Overall, research suggests a positive relationship between self-efficacy, cultural sensitivity, and attitudes towards immigrants among adolescents. Adolescents with high self-efficacy may be more confident in their ability to navigate intercultural interactions and may be more open to learning about different cultures. Additionally, positive experiences with intercultural interactions may increase individuals' comfort and familiarity with diversity, leading to more positive attitudes towards immigrants (Wang & Kim, 2021).

To summarize, when individuals have higher levels of self-efficacy, they may feel more confident in their abilities to engage with individuals from different cultures and may be more open to developing positive attitudes towards immigrants. Likewise, intercultural sensitivity also play a crucial role in facilitating effective communication and understanding between different cultures. People with higher intercultural sensitivity are more likely to approach intercultural interactions with an open mind, respect cultural differences, and engage in empathetic and inclusive behavior towards immigrants. This, in turn, may lead to more positive attitudes towards immigrants.

### **The economic, social, and cultural status (ESCS) and attitudes towards immigrants**

ESCS is an index that was developed by the OECD for the PISA, a large-scale survey that evaluates the skills and knowledge of 15-year-old students in various countries. It is based on three components: the highest level of education of the student's parents, the highest occupational status of the student's parents, and the home possessions related to wealth, culture and educational resources (OECD, 2020a). It can be used as an indicator of the socio-economic status (SES) which is a broader concept based on a variety of indicators such as income, education, occupation, wealth, health or social class of individuals or groups. In some sources of

the OECD, the concept of SES is used instead of the ESCS (OECD, 2019). The current study preferred to investigate moderating role of the ESCS in the relationship between self-efficacy and attitudes.

The results of the research conducted by OECD using 2018 PISA data revealed that students with higher the ESCS tend to have more positive attitudes towards immigrants than students with lower ESCS, but the strength and direction of this relationship vary across countries and domains (OECD, 2020a). Also, they receive more encouragement and guidance from their parents, who may value diversity student's attitudes towards immigrants is not fixed or uniform, but rather dynamic and diverse. Some countries and schools have been able to reduce the impact of the ESCS on student's attitudes by providing more equitable and inclusive education systems that cater to the diverse needs and strengths of all students (OECD, 2020a; Eckstein et al., 2021; Albarello et al., 2023).

It is reported that students with higher ESCS may have more access to books, computers, the internet, and other learning materials that can foster their intercultural awareness and appreciation. These students tend to attend schools which are more diverse and inclusive, and that offer more opportunities for global and intercultural learning more and have higher aspirations for their children. Their teachers hold higher expectations and provide more feedback and support for these students' intercultural competence. Moreover, they may have peers who share similar goals and values, and who foster a positive and collaborative learning environment (OECD, 2020b; Eckstein et al., 2021). Hence, students with higher ESCS may have more confidence and motivation in their own abilities and potential (OECD, 2020b; Eckstein et al., 2021; Albarello et al., 2023). Adolescents from higher SES backgrounds are more likely to have opportunities for cross-cultural contact and experiences, which in turn can lead to more positive attitudes towards immigrants (Schmidt, 2021). However, some researches have found mixed results. For example, a study conducted in the US in 2015 found that the SES did not significantly predict attitudes towards immigrants, with demographic factors such as age and race playing a more significant role (Bansak et al., 2016). Other studies (OECD, 2019; Gu et al., 2022) report that, an individual may have high ESCS but hold negative attitudes towards immigrants due to personal experiences, beliefs or values. In the study conducted by Schmidt (2021), it is stated that adolescents from families with low income and education levels are more likely to express negative attitudes towards immigrants compared to those from high SES backgrounds.

The relationship between the ESCS and attitudes towards immigrants may not always be direct. Individuals with higher ESCS often have more resources (such as education, social networks, and financial stability) that can enhance their adaptability. They are often more open to new

experiences, more tolerant of diversity, and better equipped to navigate social and cultural differences. Therefore, the ESCS can indirectly influence attitudes towards immigrants through its impact on adaptability. That is, higher ESCS can lead to greater adaptability, which in turn can lead to more positive attitudes towards immigrants (Gu et al., 2022). Some research supports the moderation effect of the ESCS on the mediating role of adaptability and intercultural sensitivity in the relationship between self-efficacy and attitudes towards immigrants. For example, a study by Gu et al. (2022) found that self-efficacy was positively related to adaptability, which in turn was positively related to attitudes towards immigrants, and that this relationship was stronger for individuals with higher SES.

Overall, the research on the moderating role of the ESCS on the mediating role of adaptability and intercultural sensitivity in the relationship between self-efficacy and attitudes towards immigrants is mixed. However, some research suggests that the ESCS may moderate this relationship, with the relationship between self-efficacy and attitudes towards immigrants being stronger for individuals with lower levels of the ESCS. This may be because individuals with lower levels of ESCS may have fewer opportunities to develop adaptability and intercultural sensitivity, which are important factors in mediating the relationship between self-efficacy and attitudes towards immigrants (Titzmann & Jugert, 2017; Chen et al., 2021). The study conducted by Titzmann and Jugert (2017) found that the relationship between self-efficacy and attitudes towards immigrants was partially mediated by adaptability, and that this mediation effect was stronger for individuals with lower ESCS (Titzmann & Jugert, 2017). Moreover, the study conducted by Chen et al. (2021) indicated that self-efficacy was positively associated with intercultural sensitivity and attitudes towards immigrants. However, the relationship between self-efficacy and attitudes towards immigrants was stronger among individuals with lower levels of the ESCS compared to those with higher levels of the ESCS. Furthermore, the relationship between self-efficacy and intercultural sensitivity was also stronger among individuals with lower levels of the ESCS.

In conclusion, this study focuses on explaining the moderation effect of the ESCS, which is the indicator of the socio-economic status, on mediating role of adaptability and intercultural sensitivity in the relationship between self-efficacy and attitudes towards immigrants among 15-year-old students in Türkiye. Explaining the complex and multifaceted relationship between self-efficacy and attitudes towards immigrants among concerning students in Türkiye holds significance from various perspectives. First, most of the empirical literature on attitudes towards immigrants focuses on western developed countries such as the US and European countries, where the share of immigrants in the population is 10% or more (Karapınar Kocağ & Longhi, 2022). On the

other hand, Türkiye has experienced a significant increase in immigration in recent years, and become a major destination for immigrants, especially from Syria, Iraq, Afghanistan, and Iran. However, the research examining the factors affecting the attitude towards immigrants are very inadequate in the context of Türkiye. Therefore, understanding the factors that influence attitudes towards immigrants is essential for promoting social cohesion and harmonious coexistence in Türkiye. Second, adolescence is a critical phase of social and cognitive development, during which young individuals undergo significant identity formation and socialization processes. Furthermore, adolescents are overrepresented among perpetrators of xenophobic crimes (Bentsen, 2022). Most previous studies have focused on adults' attitudes towards immigrants and they argued that attitudes during adulthood are less subject to change compared to earlier stages in the life course (Rekker et al., 2015; Naveed & Wang, 2021). The literature presents that childhood and adolescence are the most pivotal periods for attitudinal change, including attitudes towards immigrants (Gönültaş & Mulvey, 2019; Mitchell, 2019; Javdani, 2020; König et al., 2022). Hence, focusing on 15-year-old students in the current study would provide valuable insights into the attitudes of the younger generation, which is crucial for future policy-making and educational interventions. Because adolescents are at a stage where their beliefs and attitudes are still being formed and solidified. They are more receptive to new ideas and perspectives, making this a critical time to understand and potentially influence their attitudes towards immigrants. Furthermore, as future leaders, policymakers, and citizens, learning their attitudes towards immigrants will significantly impact the social, political, and economic landscape of the future. It is stated that schools play a significant role in shaping attitudes as they are often the first place where young individuals encounter diversity and learn about different cultures (Gönültaş & Mulvey, 2019; Eckstein et al., 2021; König et al., 2022). Hence, understanding 15-year-old students' attitudes can assist educators in creating inclusive and supportive learning environments that foster positive attitudes towards immigrants (Eckstein et al., 2021). Finally, previous studies have generally focused on the direct relationship between self-efficacy and attitudes, neglecting the mediating and moderating factors that influence this association. However, current study addresses this limitation by investigating the mediating role of adaptability and intercultural sensitivity and the moderating role of the ESCS in the relationship between self-efficacy and attitudes towards immigrants. The concepts of self-efficacy, adaptability, intercultural sensitivity, and attitudes towards immigrants include both cognitive (thinking, understanding, learning) and affective (feeling, emotional reaction) processes. It is important to evaluate the variables of self-efficacy, adaptability, and intercultural sensitivity, which consist of cognitive and affective

components, and their attitudes towards immigrants from the socio-cultural context. Hence, the results obtained may shed light on the interaction of cognitive-affective and social factors in shaping attitudes towards immigrants. It is expected that the findings would contribute to a more comprehensive understanding of the factors that influence attitudes towards immigrants and inform the development of effective interventions to promote positive intergroup relations.

## Purpose of the research

This study was conducted to explore whether and how 15-year-old students' ESCS moderated the mediating role of adaptability and intercultural sensitivity in the link between self-efficacy and attitudes towards immigrants in Türkiye.

## Research questions

In the light of previously mentioned aspects, this study aims to answer the following questions;

1. How does self-efficacy affect attitudes towards immigrants directly and indirectly through adaptability and intercultural sensitivity among 15-year-old students in Türkiye?
2. How does the ESCS moderate the direct effects of self-efficacy on adaptability, intercultural sensitivity and attitudes towards immigrants among 15-year-old students in Türkiye?
3. How does the ESCS moderate the indirect effects of self-efficacy on attitudes towards immigrants through adaptability and intercultural sensitivity among 15-year-old students in Türkiye?

## Method

### Participants

In PISA (2018), a rich database and information is provided about the performance of 15-year-old students in science, mathematics and reading, as well as the school life of students in relation to their learning outcomes, the sociodemographic characteristics of their parents, the qualifications and characteristics of teachers, and various characteristics of schools. PISA considers the concept of global competence as a multidimensional lifelong learning goal. Accordingly, globally competent individuals are the people who can examine local, global and intercultural issues, understand and value different perspectives and worldviews, interact successfully and respectfully with others and take responsible action for sustainability and common well-being. PISA (2018) application results provide a wide range of data on

the attitudes of 15-year old students towards immigrants in Türkiye. PISA (2018) assessment asked students to express how they relate to others, what they think of their lives and their future, and whether they believe they have the capacity to grow and improve. Measuring the well-being of 15-year-old students, the target PISA population, is particularly important, as students at this age are in a key transition phase of physical and emotional development (OECD, 2020a).

The data concerning the participants was taken from PISA (2018) which was computer-based with the participation of 6890 15-year-old students' in Türkiye. For the PISA application, 186 schools were determined by stratified random sampling method. Schools were determined using school type, Statistical Regional Units Classification Level I, school administrative form, school location, and gender distribution strata. The participants in the schools were randomly determined and 49.6% of them were girls and the remaining 50.4% were boys (Suna et al., 2019).

## Variables and measurement

### Dependent variable: attitudes towards immigrants (Code in dataset: ATTIMM [Y])

PISA (2018) asked students to report their overall attitude towards immigrants (ST204). An index of attitudes towards immigrants was derived from responses to the following statements: "Immigrant children should have the same opportunities for education that other children in the country have"; "Immigrants who live in a country for several years should have the opportunity to vote in elections"; "Immigrants should have the opportunity to continue their own customs and lifestyle"; and "Immigrants should have all the same rights that everyone else in the country has". Responses were provided on a four-point scale: "strongly disagree", "disagree", "agree" and "strongly agree". A positive value in the index of attitudes towards immigrants (ATTIMM) indicates that students have more positive attitudes towards immigrants than the average student across OECD countries (OECD, 2020a).

### Independent variable: self-efficacy (Code in dataset: RESILIENCE [X])

PISA (2018) asked students to report the extent to which they agree ("strongly disagree", "disagree", "agree", "strongly agree") with the following statements about themselves (ST188): "I usually manage one way or another"; "I feel proud that I have accomplished things"; "I feel that I can handle many things at a time"; "My belief in myself gets me through hard times"; and "When I'm in a difficult situation, I can usually find my way out of it". These statements were combined to create the index of

self-efficacy (Code in the dataset: RESILIENCE). Positive values in this index mean that the student reported higher self-efficacy than did the average student across OECD countries (OECD, 2020a).

**Mediator variables: intercultural sensitivity (Code in the dataset: INTERCULTSEN [M1])**

**Students' respect for people from other cultures** PISA (2018) asked students the extent to which they respect people from other countries (ST217). The five response categories were “very much like cman beings”; “I treat all people with respect regardless of their cultural background”; “I give space to people from other cultures to express themselves”; “I respect the values of people from different cultures”; and “I value the opinions of people from different cultures”. Positive values in this index (INTERCULTSEN) indicate that students reported greater respect for people from other cultures than the average student across OECD countries (OECD, 2020a).

**Mediator variables: adaptability (Code in dataset: COGFLEX[M2])**

PISA (2018) asked students about their ability to adapt to new situations (ST216). Students were asked to respond to six statements: “I can deal with unusual situations”; “I can change my behaviour to meet the needs of new situations”; “I can adapt to different situations even when under stress or pressure”; “I can adapt easily to a new culture”; “When encountering difficult situations with people, I can think of a way to resolve the situation”; and “I am capable of overcoming my difficulties in interacting with people from other cultures”. Responses were given on a five-point scale: “very much like me”, “mostly like me”, “somewhat like me”, “not much like me” and “not at all like me”. Positive values in the index of cognitive adaptability (COGFLEX) indicate that students have a greater ability to adapt than the average student across OECD countries (OECD, 2020a).

**Moderator variable: computation of the index of the ESCS (Code in dataset: ESCS [W])**

For the purpose of computing the PISA index of the ESCS, values for students with missing PARED, HISEI or HOMEPOS were imputed with predicted values plus a random component based on a regression on the other two variables. If there were missing data on more than one of the three variables, the ESCS was not computed and a missing value was assigned for the ESCS (OECD, 2020a).

## Data considerations and data analyses

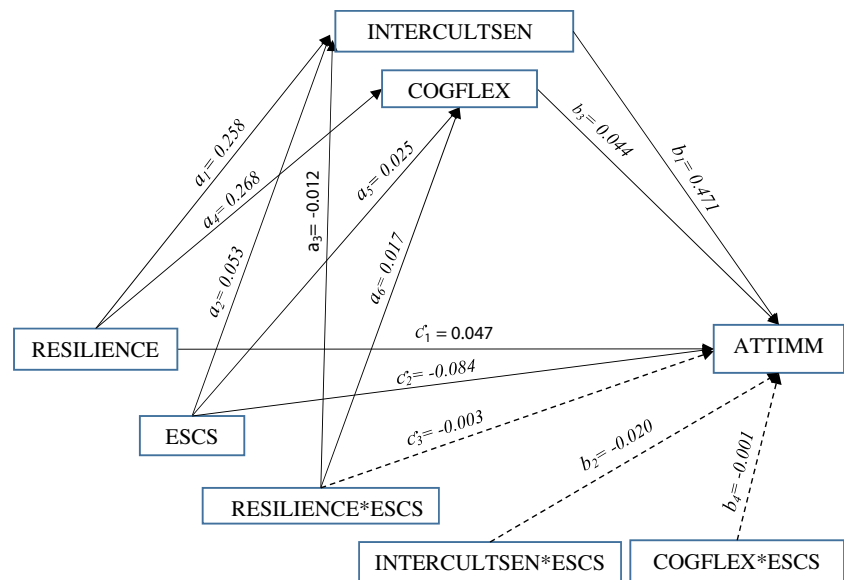
Harman's single factor test was conducted to determine the presence of common method bias. The result of Harman's single factor test explains 47.14% of the total variance, which is less than 50%, so it can be concluded that common method bias is not a threat in the data set (Aguirre-Urreta & Hu, 2019). Missing data is a challenging issue in analyses, especially at the group or upper levels, because any group-level unit with missing data excludes all individual units nested within the group-level unit from the analyses. Before the main analyses, the missing values were screened, and 289 participants were identified and excluded. Next, in screening for multivariate outliers, 32 participants were removed (Mahalanobis distance higher than the critical value of  $\chi^2 [4] = 9.48773$ ,  $p < .05$ ; Tabachnick & Fidell, 2019). Finally, the data from 6569 participants were analysed. Conceptual form representations of conditional process models by Hayes (2022) and the conditional process model in statistical form were given in Fig. 1 correspondingly.

## Statistical Analyses

Hayes (2022) states that Conditional Process Analysis (CPA) can be conducted in many disciplines, including social psychology and sociology. The CPA integrates mediation and moderation models to examine the conditional nature of the mechanisms through which the independent variable transmits its effects to the outcome variable (Hayes, 2022). This regression-based, path analytic approach uses bias-corrected bootstrap confidence intervals to test the significance of both direct and indirect effects and the influence of moderating variables on these effects. Hence, current study applied the CPA suggested by Hayes (2022) to estimate the moderator-mediator influences on the relationship of social integration to psychological wellbeing.

Moderated Mediation Model (using Hayes's PROCESS macro 4.2 [Model 59]) was used to test how students' self-efficacy (X) affects their attitudes towards immigrants (Y) through students' adaptability ( $M_1$ ) and intercultural sensitivity ( $M_2$ ), and how this mediation effect varies depending on the level of the ESCS (W). For the current study, moderated parallel mediation analyses was conducted to examine if the strength and direction of the direct and indirect effects of self-efficacy on attitudes towards immigrants differed between the ESCS levels. However, in cross-cultural mediation, relationships are often multifaceted and involve a variety of factors. The parallel mediation model allows for a more nuanced understanding of the complex relationships involved in intercultural mediation. Using the parallel mediation model, they can test how each mediator independently affects the relationship between the independent and dependent variables (Hayes, 2022). This provides a more

**Fig. 1** The conditional process model in statistical form



detailed understanding of the role of each factor, allowing for a comprehensive analysis. It was used ordinary least squares regression and estimated the 95% bias-corrected confidence interval (CI) for conditional indirect effects with 5,000 resampled samples to test the theoretical hypothesis model. The moderated parallel mediation analysis statistical model is presented in Fig. 1.

Descriptive statistics and bivariate correlations are presented in Table 1. The data presented in Table 1 reveals a statistically significant association between the variables, with correlation coefficients ranging from 0.08 to 0.48. Correlation analysis results showed that self-efficacy had significant and positive correlations with adaptability, attitudes towards immigrants, and the ESCS. Attitudes towards immigrants was positively correlated with intercultural sensitivity, adaptability, self-efficacy, and negatively correlated with the ESCS. Correlation between students' intercultural sensitivity and adaptability is also positive.

The assumptions of the regression were checked and no serious problem was encountered. According to Tabachnick and Fidell (2019), the minimum number of cases should be greater than  $50 + 8m$  (where  $m$  is the number of factors) for regression analysis. According to this criterion, the minimum cut-off point should be 82. The normal distribution

status of the data can be explained by looking at the results of the Kolmogorov-Smirnov and Shapiro-Wilk tests, as well as the values of skewness and kurtosis. The normality tests, specifically the Kolmogorov-Smirnov and Shapiro-Wilk tests, revealed significant departures from normality ( $p < 0.05$ ) for all levels of the variable. These results suggest that the data does not follow a normal distribution. However, skewness values ranged from  $-0.05$  to  $0.41$  and kurtosis values ranged from  $-0.24$  to  $0.53$  (skewness and kurtosis scores  $< 11$ ). It is accepted that the data are normally distributed when the values of skewness and kurtosis are between  $-1.5$  and  $+1.5$  (Tabachnick & Fidell, 2019). The linear relationship between independent variables and dependent variables was examined with simple scatter plot and a linear relationship was observed. When we examine the residual statistics values, there are no extreme values in the observation values (Std. Residual Minimum:  $-2.921$ ; Maximum =  $2.898$ , Cook's Distance =  $0.004$ ).

The Levene test indicated that the variance of the residual errors was constant across all levels of the independent variables (all  $p > .05$ ). When the regression standardized residual histogram was examined, it was observed that the errors of the predictions showed a normal distribution. In addition, since it is observed in the scatter plot that the regression

**Table 1** Descriptive statistics and correlation coefficients among the main study variables

|   | Variables    | M     | SD   | Skew. | Kurt. | $\alpha$ | 1      | 2      | 3      | 4       |
|---|--------------|-------|------|-------|-------|----------|--------|--------|--------|---------|
| 1 | INTERCULTSEN | 0.28  | 0.70 | 0.05  | -0.24 | 0.75     | 1      |        |        |         |
| 2 | COGFLEX      | 0.23  | 0.83 | 0.12  | 0.53  | 0.84     | 0.48** | 1      |        |         |
| 3 | RESILIENCE   | 0.36  | 1.14 | 0.07  | -0.01 | 0.85     | 0.43** | 0.37** | 1      |         |
| 4 | ESCS         | -1.17 | 1.18 | 0.25  | -0.65 |          | 0.12** | 0.07** | 0.08** | 1       |
| 5 | ATTIMM       | -0.35 | 0.93 | 0.41  | -0.14 | 0.83     | 0.38** | 0.22** | 0.22** | -0.06** |

\*\*Correlation is significant at the 0.01 level (2-tailed)

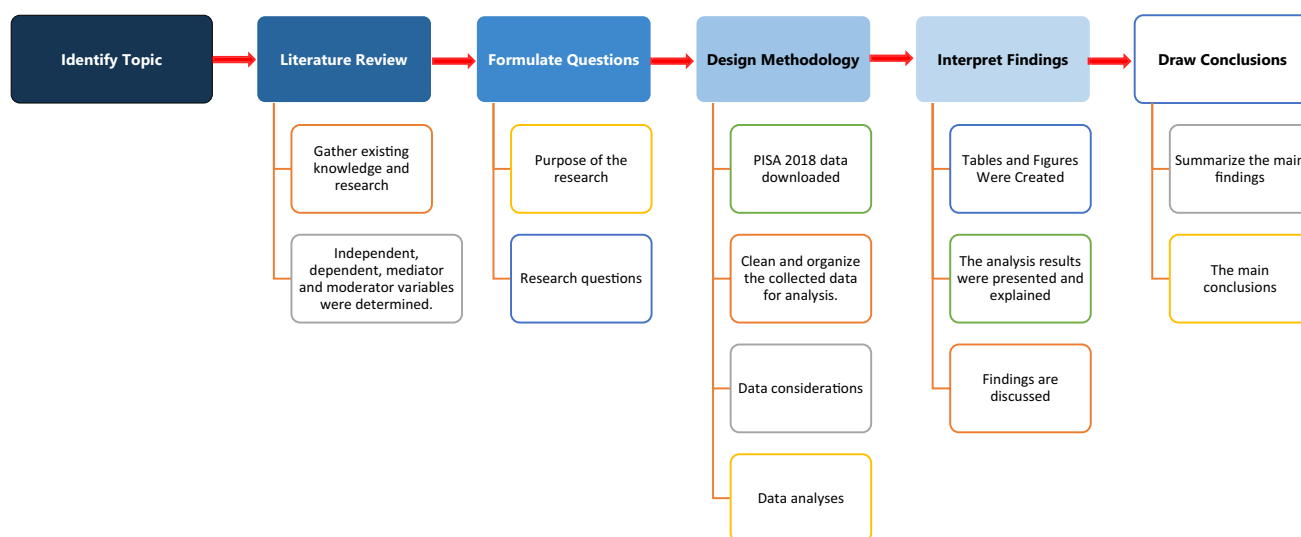
standardized predicted value is distributed around zero, the assumption of homoscedasticity is met. The assumptions of multicollinearity and independence were met. The relationship between independent variables varies between -0.06 and 0.43, which shows that there is no multicollinearity problem between variables. The values of VIF ranged from 1.01 to 1.31 and the values of tolerance ranged from 0.77 to 0.99, the Durbin-Watson test values were 0.66. The standardized residual plot revealed that the relationship between residual and predicted dependent variable scores was almost linear. The scatterplot of the estimated standardized values (Z-Predicted) and standardized residual values (Z-Residuals) showed that the points are scattered randomly around zero. Therefore, it suggests that the differences between predicted and observed values exhibit a normal distribution (Field, 2009; Pallant, 2020). For a better visual understanding of the research process, a general research process flow diagram is given in Fig. 2.

## Results

### Mediation analyses

To determine the direct and indirect effects of students' self-efficacy on their attitudes towards immigrants through intercultural sensitivity and adaptability, parallel mediation analysis was conducted (Hayes, 2022). Parallel mediation analysis results are presented in Table 2. Table 2 presents the total, direct, and indirect effects of self-efficacy on attitudes towards immigrants, as mediated by adaptability and intercultural sensitivity. The table provides the coefficients (Coeff), bootstrapped standard errors (BootSE), and bootstrapped lower and upper confidence intervals (BootLLCI and BootULCI) for each effect.

Table 2 shows that the direct and indirect effects of self-efficacy on attitudes towards immigrants were statistically significant and positive. The direct effect of self-efficacy



**Fig. 2** Research process flow diagram

**Table 2** Total, direct, and indirect effects of self-efficacy on attitudes towards immigrants, as mediated by adaptability and adaptability, and controlling for ESCS

| Effect                                    | Coeff | BootSE | BootLLCI | BootULCI |
|-------------------------------------------|-------|--------|----------|----------|
| RESILIENCE → INTERCULTSEN                 | 0,26  | 0,01   | 0,24     | 0,27     |
| RESILIENCE → COGFLEX                      | 0,27  | 0,01   | 0,25     | 0,29     |
| RESILIENCE → ATTIMM                       | 0,05  | 0,01   | 0,02     | 0,07     |
| INTERCULTSEN → ATTIMM                     | 0,47  | 0,02   | 0,43     | 0,51     |
| COGFLEX → ATTIMM                          | 0,04  | 0,02   | 0,01     | 0,08     |
| Total Effect RESILIENCE → ATTIMM          | 0,18  | 0,01   | 0,16     | 0,20     |
| Direct Effect RESILIENCE → ATTIMM         | 0,05  | 0,01   | 0,03     | 0,07     |
| RESILIENCE → INTERCULTSEN → ATTIMM        | 0,15  | 0,01   | 0,13     | 0,16     |
| RESILIENCE → COGFLEX → ATTIMM             | 0,01  | 0,01   | 0,00     | 0,03     |
| Total Indirect Effect RESILIENCE → ATTIMM | 0,16  | 0,01   | 0,15     | 0,18     |

on attitudes towards immigrants was significant ( $\beta=0.05$ ,  $p=0.00$ ). Additionally, the direct effect of self-efficacy on intercultural sensitivity ( $\beta=0.26$ ,  $p=0.00$ ) and adaptability ( $\beta=0.27$ ,  $p=0.00$ ) was statistically significant and positive. The results showed that the total effect of self-efficacy on attitudes towards immigrants was also significant ( $\beta=0.18$ ,  $p=0.00$ ). Additionally, the indirect effect of self-efficacy on attitudes towards immigrants through intercultural sensitivity was significant ( $\beta=0.15$ ,  $p=0.00$ ), as was the indirect effect of self-efficacy on attitudes towards immigrants through adaptability ( $\beta=0.01$ ,  $p=0.00$ ). These results show that intercultural sensitivity and adaptability partially mediate the relationship between self-efficacy and attitudes towards immigrants. However, the indirect effect through intercultural sensitivity was larger than the indirect effect through adaptability, indicating that intercultural sensitivity plays a stronger mediating role in the relationship between self-efficacy and attitudes towards immigrants.

### The ESCS -moderated parallel mediation

After examining the mediating effect of the self-efficacy, the moderated mediation analysis was performed to explore whether the ESCS moderated the mediating effect of intercultural sensitivity and adaptability in the link between self-efficacy and attitudes towards immigrants. CPA (using Hayes's PROCESS macro 4.2 [Model 59]) was used to test how students' self-efficacy affects their attitudes towards immigrants through students' adaptability and intercultural sensitivity, and how this mediation effect varies depending on the levels of the ESCS. CPA results are presented in Table 3 and Table 4. Table 3 presents the path coefficients, standard errors and confidence

intervals for statistical model. Table 4 presents the relative conditional direct and indirect effects of self-efficacy on attitudes towards immigrants through intercultural sensitivity and adaptability for various values of the ESCS.

The model explained 19.1% of the variance in intercultural sensitivity ( $R=0.437$ ,  $R^2=0.191$   $F_{(3,6565)}=515.54$ ,  $p=0.00$ ), 14.1% of the variance in adaptability ( $R=0.375$ ,  $R^2=0.141$   $F_{(3,6565)}=358.97$ ,  $p=0.00$ ), and 16.3% of the variance in attitudes towards immigrants ( $R=0.404$ ,  $R^2=0.163$   $F_{(7,6561)}=183.05$ ,  $p=0.00$ ).

As seen from Table 3, the results of the CPA indicate that self-efficacy had a significant direct effect on intercultural sensitivity ( $a_1$ :  $B=0.26$ ,  $SE=0.01$ ,  $p=0.00$ ), adaptability ( $a_4$ :  $B=0.27$ ,  $SE=0.01$ ,  $p=0.00$ ), and attitudes towards immigrants ( $c_1$ :  $B=0.08$ ,  $SE=0.01$ ,  $p=0.00$ ). The ESCS also had a significant effect on intercultural sensitivity ( $a_2$ :  $B=0.06$ ,  $SE=0.01$ ,  $p=0.00$ ), adaptability ( $a_5$ :  $B=0.03$ ,  $SE=0.01$ ,  $p=0.00$ ), and attitudes towards immigrants ( $c_2$ :  $B=-0.08$ ,  $SE=0.01$ ,  $p=0.00$ ). However, the effect on attitudes towards immigrants was negative.

The mediator variables, intercultural sensitivity ( $b_1$ :  $B=0.47$ ,  $SE=0.02$ ,  $p=0.00$ ) and adaptability ( $b_3$ :  $B=0.04$ ,  $SE=0.02$ ,  $p=0.00$ ), had significant effects on attitudes towards immigrants. The interaction between self-efficacy and the ESCS had a significant effect on intercultural sensitivity ( $a_3$ :  $B=-0.01$ ,  $SE=0.01$ ,  $p=0.05$ ) and adaptability ( $a_6$ :  $B=0.02$ ,  $SE=0.01$ ,  $p=0.02$ ), but not on attitudes towards immigrants ( $c_3$ :  $B=-0.01$ ,  $SE=0.01$ ,  $p=0.05$ ). The interaction between intercultural sensitivity and the ESCS ( $b_2$ :  $B=-0.02$ ,  $SE=0.02$ ,  $p=0.19$ ), and between adaptability and the ESCS ( $b_4$ :  $B=0.00$ ,  $SE=0.01$ ,  $p=0.93$ ), did not have significant effects on attitudes towards immigrants.

**Table 3** The CPA results for the relationship between student' self-efficacy and attitudes towards immigrants, as mediated by intercultural sensitivity, and adaptability and moderated by ESCS

|                      | Consequent                   |       |      |      |                              |       |      |      |                              |       |      |      |
|----------------------|------------------------------|-------|------|------|------------------------------|-------|------|------|------------------------------|-------|------|------|
|                      | $M_1$ (INTERCULTSEN)         |       |      |      | $M_2$ (COGFLEX)              |       |      |      | $Y$ (ATTIMM)                 |       |      |      |
| Independent variable | B                            | SE    | $p$  |      | B                            | SE    | $p$  |      | B                            | SE    | $p$  |      |
| RESILIENCE           | $a_1$                        | 0.26  | 0.01 | 0.00 | $a_4$                        | 0.27  | 0.01 | 0.00 | $c_1$                        | 0.08  | 0.01 | 0.00 |
| Moderator variable   |                              |       |      |      |                              |       |      |      |                              |       |      |      |
| ESCS                 | $a_2$                        | 0.06  | 0.01 | 0.00 | $a_5$                        | 0.03  | 0.01 | 0.00 | $c_2$                        | -0.08 | 0.01 | 0.00 |
| Mediator variables   |                              |       |      |      |                              |       |      |      |                              |       |      |      |
| INTERCULTSEN         | -                            | -     | -    | -    | -                            | -     | -    | -    | $b_1$                        | 0.47  | 0.02 | 0.00 |
| COGFLEX              | -                            | -     | -    | -    | -                            | -     | -    | -    | $b_3$                        | 0.04  | 0.02 | 0.00 |
| Interaction terms    |                              |       |      |      |                              |       |      |      |                              |       |      |      |
| RESILIENCE * ESCS    | $a_3$                        | -0.01 | 0.01 | 0.05 | $a_6$                        | 0.02  | 0.01 | 0.02 | $c_3$                        | -0.00 | 0.01 | 0.71 |
| INTERCULTSEN * ESCS  | -                            | -     | -    | -    | -                            | -     | -    | -    | $b_2$                        | -0.02 | 0.02 | 0.19 |
| COGFLEX * ESCS       | -                            | -     | -    | -    | -                            | -     | -    | -    | $b_4$                        | -0.00 | 0.01 | 0.93 |
| Constant             | $\hat{I}_{M1}$               | 0.00  | 0.01 | 0.88 | $\hat{I}_{M2}$               | -0.00 | 0.01 | 0.86 | $\hat{I}_Y$                  | -0.35 | 0.01 | 0.00 |
|                      | $R=0.437, R^2=0.191$         |       |      |      | $R=0.375, R^2=0.141$         |       |      |      | $R=0.404, R^2=0.163$         |       |      |      |
|                      | $F_{(3,6565)}=515.54, p<.05$ |       |      |      | $F_{(3,6565)}=358.97, p<.05$ |       |      |      | $F_{(7,6561)}=183.05, p<.05$ |       |      |      |

**Table 4** The relative conditional indirect effects of self-efficacy on attitudes towards immigrants through Intercultural sensitivity and adaptability for various values of the ESCS

| Moderated Parallel Mediation | Conditional effects of X on $M_1$ and $M_2$ |      |                         |           | Conditional direct effects of X on Y |      | Conditional indirect effects of X on Y |      |                                    |           |      |      |
|------------------------------|---------------------------------------------|------|-------------------------|-----------|--------------------------------------|------|----------------------------------------|------|------------------------------------|-----------|------|------|
|                              | RESILIENCE →<br>INTCULTSEN                  |      | RESILIENCE →<br>COGFLEX |           | RESILIENCE →<br>ATTMM                |      | RESILIENCE →<br>INTCULTSEN →<br>ATTMM  |      | RESILIENCE →<br>COGFLEX →<br>ATTMM |           | LLCI | ULCI |
|                              | b (SE)                                      | LLCI | ULCI                    | b (SE)    | LLCI                                 | ULCI | b (SE)                                 | LLCI | ULCI                               | b (SE)    | LLCI | ULCI |
|                              | b (SE)                                      | LLCI | ULCI                    | b (SE)    | LLCI                                 | ULCI | b (SE)                                 | LLCI | ULCI                               | b (SE)    | LLCI | ULCI |
| ESCS                         |                                             |      |                         |           |                                      |      |                                        |      |                                    |           |      |      |
| M-1SD (-1.18)                | .27 (.01)                                   | .25  | .29                     | .25 (.01) | .23                                  | .27  | .06 (.01)                              | .03  | .08                                | .14 (.01) | .12  | .15  |
| Relative Low                 |                                             |      |                         |           |                                      |      |                                        |      |                                    |           |      |      |
| M (0.00) Moderate            | .26 (.01)                                   | .25  | .27                     | .27 (.01) | .25                                  | .28  | .05 (.01)                              | .03  | .07                                | .12 (.01) | .11  | .13  |
| M+1SD (1.18)                 | .24 (.01)                                   | .23  | .26                     | .29 (.01) | .27                                  | .31  | .04 (.01)                              | .01  | .07                                | .11 (.01) | .09  | .13  |
| Relative High                |                                             |      |                         |           |                                      |      |                                        |      |                                    |           |      |      |

Table 4 shows that the conditional direct effects of self-efficacy on intercultural sensitivity, adaptability and attitudes towards immigrants varied depending on the level of the ESCS. The conditional effects of self-efficacy on intercultural sensitivity and adaptability were significant for all levels of the ESCS. The effect of self-efficacy on intercultural sensitivity was strongest for individuals with relatively low ESCS ( $B = 0.27$ ,  $SE = 0.01$ , 95% CI [0.25, 0.29]), and weakest for individuals with relatively high ESCS ( $B = 0.24$ ,  $SE = 0.01$ , 95% CI [0.23, 0.26]). However, the effect of self-efficacy on adaptability was strongest for individuals with relatively high ESCS ( $B = 0.29$ ,  $SE = 0.01$ , 95% CI [0.27, 0.31]) and weakest for individuals with relatively low ESCS ( $B = 0.25$ ,  $SE = 0.01$ , 95% CI [0.23, 0.27]). The conditional direct effect of self-efficacy on attitudes towards immigrants was significant for all levels of the ESCS. The effect of self-efficacy on attitudes towards immigrants was strongest for individuals with relatively low ESCS ( $B = 0.06$ ,  $SE = 0.01$ , 95% CI [0.03, 0.08]), and weakest for individuals with relatively high ESCS ( $B = 0.04$ ,  $SE = 0.01$ , 95% CI [0.01, 0.07]).

Also, Table 4 shows that the conditional indirect effects of self-efficacy on attitudes towards immigrants through intercultural sensitivity and adaptability varied depending on the levels of the ESCS. The conditional indirect effects of self-efficacy on attitudes towards immigrants through intercultural sensitivity and adaptability were significant for all levels of the ESCS. The indirect effect of self-efficacy on attitudes towards immigrants through intercultural sensitivity was strongest for individuals with relatively low ESCS ( $B = 0.14$ ,  $SE = 0.01$ , 95% CI [0.12, 0.15]), and weakest for individuals with relatively high ESCS ( $B = 0.11$ ,  $SE = 0.01$ , 95% CI [0.09, 0.13]). However, the indirect effect of self-efficacy on attitudes towards immigrants through adaptability was strongest for individuals with relatively high ESCS ( $B = 0.03$ ,  $SE = 0.01$ , 95% CI [0.01, 0.03]), and weakest for individuals with relatively low ESCS ( $B = 0.02$ ,  $SE = 0.01$ , 95% CI [0.01, 0.02]).

## Discussion

This study aimed to explore whether and how 15-year-old students' ESCS moderate the mediating role of adaptability and intercultural sensitivity in the link between self-efficacy and attitudes towards immigrants in Türkiye. Firstly answer of the question - How does self-efficacy affect attitudes towards immigrants directly and indirectly through adaptability and intercultural sensitivity among 15-year-old students in Türkiye? - was sought. Self-efficacy refers to an individual's belief in their ability to perform a task or achieve a goal, and in the context of attitudes towards immigrants, it may refer to an individual's confidence in their

ability to interact with individuals from different cultural backgrounds.

The results indicated that self-efficacy was a significant predictor of intercultural sensitivity, adaptability, and attitudes towards immigrants. The indirect effects of self-efficacy on attitudes towards immigrants through intercultural sensitivity and adaptability were also found to be significant. This suggests that intercultural sensitivity and adaptability partially mediate the relationship between self-efficacy and attitudes towards immigrants. Notably, the indirect effect through intercultural sensitivity was larger than that of through adaptability, showing that intercultural sensitivity plays a stronger mediating role in this relationship (Table 2, Table 3).

One possible explanation for this relationship is that adaptability and self-efficacy help students cope with the challenges and opportunities of living in a diverse and interconnected world. Adaptable and self-efficacious students may be more open to learning from and collaborating with people from different backgrounds and perspectives, which can enhance their intercultural awareness and appreciation. They may also be more respectful and empathetic towards people from different cultures and traditions, which can foster their appreciation and acceptance of diversity (OECD, 2020b; Gu et al., 2022).

The research finding that self-efficacy has a positive and significant effect on attitudes towards immigrants is consistent with other research on the topic. This suggests that people who believe they are capable of influencing their own lives and outcomes are also more likely to have positive attitudes towards immigrants.

The finding that the mediator variables, intercultural sensitivity and adaptability, had significant effects on attitudes towards immigrants, is consistent with previous research (Albarello & Rubini, 2023; Gönültaş & Mulvey, 2019). For example, a study by Gönültaş and Mulvey (2019) found that intercultural sensitivity and adaptability mediated the relationship between the ESCS and attitudes towards immigrants among Turkish high school students. Similarly, a study by Albarello et al. (2023) found that intercultural sensitivity and adaptability mediated the relationship between the ESCS and attitudes towards immigrants among college students.

The finding of the current research, which intercultural sensitivity and adaptability had significant effects on attitudes towards immigrants, support the findings of previous studies (Sorthaix & Lönnqvist, 2014; OECD, 2020b; Wang & Kim, 2021). For example, a study by Sorthaix and Lönnqvist (2014) found that intercultural sensitivity and adaptability were positively related to attitudes towards immigrants among adolescents. Similarly, Wang and Kim (2021) report that intercultural sensitivity and adaptability were positively related to attitudes towards immigrants among college students. Likewise, OECD (2020b) state

that intercultural sensitivity was a positive predictor of attitudes towards immigrants among 15-year-old students in 27 countries. However, not all studies have found the same results. For instance, de Mamani et al. (2007) found that self-efficacy was associated with more negative attitudes towards immigrants and greater likelihood of voting for a restrictive immigration policy among Whites. Therefore, the above research finding is not conclusive, and it may vary depending on the context, the measurement, and the sample of the study. As Dražanová and Gonnot (2023) claim, a possible way to further explore this topic is to conduct cross-national comparative studies that can account for the historical, cultural, and institutional differences among countries. The result that adolescents' self-efficacy positively affects their attitudes towards immigrants implies that the higher levels of self-efficacy may be associated with more positive attitudes towards immigrants among adolescents, but the effect is relatively weak. Albarello et al. (2023) provided evidence for the link between self-efficacy and attitudes towards immigrants. The researchers reported that higher self-efficacy was associated with more positive attitudes towards immigrants among Swedish participants. They also revealed that higher self-efficacy was associated with more positive attitudes towards immigrants among Italian participants. It is believed that adolescents with higher self-efficacy may have greater social skills, communication abilities, and problem-solving skills, which can facilitate positive interactions with immigrants and foster more favorable attitudes. These adolescents may be more motivated to engage in intercultural interactions, seek out opportunities to learn about other cultures, and overcome challenges associated with intercultural encounters. This increased motivation and resilience may lead to more positive attitudes towards immigrants among adolescents with higher self-efficacy. However, the finding indicated that this effect is observed at a low level. It implies that other factors may also play a role in shaping attitudes towards immigrants among adolescents. It can be stated that attitudes towards immigrants are complex and can be influenced by various factors such as personal experiences, cultural norms, social context, and individual characteristics beyond self-efficacy.

Other significant finding of the current research, which adaptability mediates the relationship between self-efficacy and attitudes towards immigrants, is an important outcome that sheds light on the complex factors influencing attitudes towards immigrants. This finding suggests that individuals with higher self-efficacy may be more likely to adapt to new cultural situations, which in turn leads to more positive attitudes towards immigrants. In other words, individuals who are confident in their ability to interact with individuals from different cultural backgrounds may be more adaptable and better able to adjust to cultural differences, leading to more positive attitudes towards immigrants. This result is

consistent with previous research reporting that adaptability is an important predictor of positive attitudes towards individuals from different cultural backgrounds (Stoessel et al., 2012; Bultseva & Lebedeva, 2021).

The finding that intercultural sensitivity mediates the relationship between self-efficacy and attitudes towards immigrants is another significant outcome of the current research which sheds light on the complex factors shaping attitudes towards immigrants. The result suggests that individuals with higher self-efficacy may be more likely to develop positive intercultural attitudes, which in turn leads to more positive attitudes towards immigrants. In other words, individuals who are confident in their ability to interact with individuals from different cultural backgrounds may be more likely to have positive attitudes towards immigrants because they are more open and accepting of cultural diversity. This result is consistent with previous research (Bultseva & Lebedeva, 2021) showing that intercultural competence is an important predictor of positive attitudes towards individuals from different cultural backgrounds. Likewise, Albarello et al. (2023) report that intercultural sensitivity and adaptability increased the positive effect of self-efficacy on students' attitudes towards immigrants as in the current research.

Secondly, the current study aimed to find answer to second question- How does the ESCS moderate the direct effects of self-efficacy on adaptability, intercultural sensitivity and attitudes towards immigrants among 15-year-old students in Türkiye? -. The results showed that the conditional effects of self-efficacy on intercultural sensitivity, adaptability and attitudes towards immigrants varied depending on the levels of the ESCS. The effect of self-efficacy on intercultural sensitivity was strongest for individuals with relatively low ESCS and weakest for individuals with relatively high ESCS. On the other hand, the effect of self-efficacy on adaptability was strongest for individuals with relatively high ESCS and weakest for individuals with relatively low ESCS. The conditional direct effect of self-efficacy on attitudes towards immigrants was significant for all levels of the ESCS, but it is strongest for individuals with relatively low ESCS and weakest for individuals with relatively high ESCS (Figure 1; Table 3).

The results showed that the conditional effects of self-efficacy on intercultural sensitivity, adaptability and attitudes towards immigrants varied depending on the levels of the ESCS. The effect of self-efficacy on intercultural sensitivity was strongest for individuals with relatively low ESCS and weakest for individuals with relatively high ESCS. On the other hand, the effect of self-efficacy on adaptability was strongest for individuals with relatively high ESCS and weakest for individuals with relatively low ESCS. The conditional direct effect of self-efficacy on attitudes towards immigrants was significant for all levels of the ESCS, but

it is strongest for individuals with relatively low ESCS and weakest for individuals with relatively high ESCS (Figure 1; Table 3).

The finding that the conditional effects of self-efficacy on intercultural sensitivity and adaptability vary depending on the levels of the ESCS is consistent with some previous research (OECD, 2020b; Wang & Kim, 2021). For example, OECD (2020b) found that the effect of self-efficacy on intercultural sensitivity was stronger for students from disadvantaged backgrounds. Similarly, Wang and Kim (2021) report that the effect of self-efficacy on adaptability was stronger for students from lower socioeconomic status families.

The finding that the ESCS has positive effects on intercultural sensitivity and adaptability supported the findings of previous research (Bansak et al., 2016; Gu et al., 2022; Dražanová & Gonnot, 2023). For example, Bansak et al. (2016) found that the ESCS was positively related to intercultural sensitivity among adolescents in Europe. The researchers stated that European students with higher ESCS were more likely to have higher intercultural sensitivity. Similarly, a study by Dražanová and Gonnot (2023) report that the ESCS was positively related to adaptability among college students in the United States. Likewise, Gu et al. (2022) present that individuals with higher economic status were more likely to have higher levels of adaptability.

One of the significant finding of current study is that the ESCS had a negative direct effect on attitudes towards immigrants. This suggests that students from higher ESCS backgrounds were less likely to have positive attitudes towards immigrants. The finding is more mixed because some of the previous studies have found that individuals with higher socioeconomic status are more likely to have negative attitudes towards immigrants (Dražanová & Gonnot, 2023), while the others have found no relationship between socioeconomic status and attitudes towards immigrants (Karapınar Kocağ & Longhi, 2022). Karapınar Kocağ and Longhi (2022) noted that the effect of self-efficacy on attitudes towards immigrants was only significant for individuals with higher levels of the ESCS.

The present study's findings reveal a statistically significant but weak interaction effect of self-efficacy and the ESCS on intercultural sensitivity and adaptability. The findings of the study contradict the hypothesis that the interaction between adolescents' self-efficacy and socio-economic characteristics would have a strong impact on their intercultural sensitivity and adaptability (Veselska et al., 2010; Schöber et al., 2018; Schmidt, 2021; Sedillo-Hamann, 2023). On the other hand, self-efficacy can enhance intercultural sensitivity by increasing one's confidence, curiosity, and openness to new experiences and perspectives. Likewise, intercultural sensitivity can enhance self-efficacy by providing one with more knowledge, skills, and strategies to deal with diverse situations and challenges. The ESCS can affect

both self-efficacy and intercultural sensitivity by shaping one's access to resources, opportunities, and networks that can facilitate or hinder intercultural learning and development. Conversely, the relationship between self-efficacy, the ESCS, and intercultural sensitivity influences one's choices, goals, and achievements in various domains of life (Deveci et al., 2022; Gotseva-Balgaranova, 2023). Factors such as exposure to diverse cultures, educational environments, or access to resources may mediate the relationship between self-efficacy, the ESCS, and intercultural sensitivity. The impact of self-efficacy and the ESCS on intercultural sensitivity might vary depending on the cultural context. For instance, in individualistic cultures, self-efficacy might play a more prominent role, while in collectivistic cultures, the ESCS might hold greater weight (Deveci et al., 2022).

Several studies have indicated a positive association between self-efficacy, the ESCS, and adaptability in adolescents. For example, Schöber et al. (2018) demonstrated that self-efficacy and the ESCS were positively correlated with social integration among adolescents (Schöber et al., 2018; Sedillo-Hamann, 2023). Veselska et al. (2010) identified personality and mental health as moderators of the relationship between the ESCS and self-esteem, a key component of self-efficacy (Veselska et al., 2010). This complex interplay is further exemplified by the potential for adaptability to mitigate the negative impacts of low ESCS on self-efficacy. Adaptable individuals may employ creative strategies to access resources and opportunities, thereby buffering against economic constraints. On the other hand, high self-efficacy can foster adaptability regardless of the ESCS. The belief in one's ability to succeed can motivate individuals to seek solutions and persevere in the face of challenges, irrespective of their socioeconomic background.

In light of these findings, it is evident that the interplay between adolescents' self-efficacy, economic and social capital (the ESCS), intercultural sensitivity, and adaptability is not static, but rather dynamic and multifaceted interplay influenced by contextual factors and individual differences. While the aforementioned model posits a direct relationship between aforementioned variables, the present study suggests a more nuanced picture. The impact of self-efficacy, and the ESCS on intercultural sensitivity and adaptability may be modulated by additional factors, such as personal experiences, value systems, personality traits, mental well-being, social support networks, school environment, and cultural norms (Veselska et al., 2010; Schöber et al., 2018; Schmidt, 2021). Therefore, future research should delve deeper into these moderating influences to elucidate the intricate mechanisms shaping adolescents' intercultural competence and adaptability.

One of the important and complex findings of the current research is that as the ESCS increases, the relationship between self-efficacy, inter-cultural sensitivity and

attitudes towards immigrants decreases, but the relationship with self-efficacy, adaptation and attitudes seem to be increases slightly. The statement suggests that as the ESCS increases, there may be changes in the relationship between self-efficacy, cultural sensitivity, attitudes towards immigrants, and adaptation. Let's break it down and discuss potential implications. Firstly, the statement implies that as the ESCS increases, the relationship between self-efficacy and cultural sensitivity decreases. This could mean that individuals with higher ESCS may exhibit lower levels of cultural sensitivity, possibly due to a sense of entitlement or lack of exposure to diverse cultures. They may feel more self-efficacy in their own cultural norms and may not actively engage in understanding or appreciating other cultures. Secondly, the statement suggests that as the ESCS increases, the relationship between self-efficacy and attitudes towards immigrants also decreases. This may imply that individuals with higher ESCS may hold less favorable attitudes towards immigrants, possibly due to a perceived threat to their own socio-economic status or cultural values. Higher self-efficacy may lead to less willingness to accept and integrate immigrants into their communities. Thirdly, the statement indicates that as the ESCS increases, the relationship between self-efficacy and adaptation increases. This could mean that individuals with higher ESCS may exhibit better adaptation skills, possibly due to greater access to resources and opportunities. Higher self-efficacy may also contribute to their ability to navigate and thrive in new environments, including interactions with individuals from diverse cultural backgrounds. Another possible explanation could be that people with lower ESCS face more challenges and barriers in their lives, such as poverty, discrimination or marginalization. This could make them more resilient and resourceful, but also more empathetic and tolerant of other cultures and people. They may also have lower expectations and standards for themselves and others, which could affect their self-efficacy and cultural sensitivity.

Finally, the current research aimed to find answer for the third question which was reported as How does ESCS moderate the indirect effects of self-efficacy on attitudes towards immigrants through adaptability and intercultural sensitivity among 15-year-old students in Türkiye? The analyses results showed that students' ESCS moderated the indirect effect of self-efficacy on attitudes towards immigrants through intercultural sensitivity and adaptability. This implies that the relationship between self-efficacy and attitudes towards immigrants was not only mediated by intercultural sensitivity and adaptability but also influenced by the levels of the ESCS. In other words, the positive impact of self-efficacy on attitudes towards immigrants via intercultural sensitivity and adaptability was stronger for students with lower ESCS than for students with higher ESCS (Table 4).

The findings also revealed that the ESCS moderated the indirect impact of self-efficacy on attitudes towards immigrants through intercultural sensitivity and adaptability. Specifically, the positive influence of self-efficacy on attitudes towards immigrants, mediated by intercultural sensitivity and adaptability, was more pronounced for students with lower ESCS compared to those with higher ESCS. This outcome is consistent with those of prior research, such as Gu et al. (2022), and Titzmann and Jugert (2017), which demonstrated similar moderation effects of the ESCS on the relationships between self-efficacy, adaptability, and attitudes towards immigrants. However, it also deviates from the findings of other studies like OECD (2020b) and Albarello et al. (2023), emphasizing the dynamic and diverse nature of the relationship between the ESCS and attitudes towards immigrants.

The results also indicated that finding of the current research is consistent with some previous studies that have found that the ESCS can moderate the relationship between self-efficacy and intercultural outcomes (Titzmann & Jugert, 2017; Schachner et al., 2017; Gu et al., 2022). For example, Gu et al. (2022) found that self-efficacy was positively related to adaptability, which in turn was positively related to attitudes towards immigrants, and that this relationship was stronger for individuals with higher SES. The authors suggest that individuals with the higher SES may have greater access to resources that facilitate adaptability, such as education and travel opportunities. Another study by Titzmann and Jugert (2017) found that the relationship between self-efficacy and attitudes towards immigrants was partially mediated by adaptability and that this mediation effect was stronger for individuals with lower SES. The authors suggest that lower SES individuals may be more likely to encounter novel situations and challenges that require adaptability, and that adaptability may help them to cope with cultural diversity and change. Similarly, Schachner et al. (2017) report that students' SES moderated the indirect effect of self-efficacy on attitudes towards immigrants through intercultural sensitivity and adaptation. The indirect effect of students' self-efficacy on attitudes towards immigrants is higher for students with lower ESCS than for students with higher ESCS. A study by OECD (2020a) found that students with higher ESCS tend to have more positive attitudes towards immigrants than students with lower ESCS, and the strength and direction of relationship vary across countries and domains. The authors argue that the effect of the ESCS on student attitudes towards immigrants is not fixed or uniform, but rather dynamic and diverse. Albarello et al. (2023) found that the ESCS was positively related to intercultural sensitivity, which in turn was positively related to attitudes towards immigrants, and that this relationship was mediated by school climate and teacher support. The

authors claim that the ESCS can influence intercultural sensitivity by providing more access to cultural resources and opportunities, and that school climate and teacher support can enhance intercultural sensitivity by creating a more inclusive and supportive learning environment.

This finding of the current study is also consistent with that of previous one (Miklikowska, 2017) which demonstrated the moderating influence of the ESCS on psychological variables and their outcomes. For instance, Miklikowska (2017) posited that individuals with higher self-efficacy may possess greater confidence in their ability to interact effectively with immigrants, leading to more positive attitudes towards them. Similarly, students with higher ESCS may have greater opportunities to engage with diverse cultures and perspectives, fostering the development of skills and attitudes that facilitate effective interactions with individuals from different backgrounds. This exposure may also enhance their awareness of the benefits and challenges of living in a multicultural society, promoting respect and appreciation for cultural diversity.

The current study also revealed that the interaction between self-efficacy and the ESCS did not exert a significant combined effect on attitudes towards immigrants. This implies that regardless of an individual's level of self-efficacy or the ESCS, their attitudes towards immigrants may not be substantially influenced by the interplay of these two factors. This result aligns with findings from various academic studies (Perry et al., 2018; Nese, 2023). For example, Nese (2023) concluded that the impact of socioeconomic factors on attitudes towards immigrants is limited, and cultural differences and political attitudes play a more significant role in Italy. Similarly, Perry et al. (2018) found that socioeconomic variables were insufficient in explaining negative attitudes towards immigrants in Australia, suggesting that these attitudes are more rooted in social and cultural factors. Therefore, the conclusion that socioeconomic variables do not moderate attitudes towards immigrants can be supported by findings from various sources. However, this result does not imply that other factors influencing attitudes towards immigrants should be overlooked.

Several explanations may account for this finding. Firstly, attitudes towards immigrants may be shaped by more salient or influential factors, such as personal experiences, cultural norms, or political ideologies. These factors could override the potential influence of self-efficacy and socioeconomic status on attitudes towards immigrants. Secondly, it is possible that self-efficacy and socioeconomic status may operate independently in shaping attitudes towards immigrants. For instance, an individual with high self-efficacy may have positive attitudes towards immigrants regardless of their socioeconomic status, while an individual with low self-efficacy may have negative attitudes towards immigrants regardless of their socioeconomic status. In this case, the interaction

between self-efficacy and socioeconomic status may not be a significant predictor of attitudes towards immigrants.

Therefore, the finding of the study suggests that the relationship between self-efficacy, the ESCS, intercultural sensitivity, adaptability, and attitudes towards immigrants is complex and multifaceted, and that it may depend on various contextual and individual factors. The outcome also implies that improving self-efficacy, intercultural sensitivity, and adaptability may be beneficial for fostering more positive attitudes towards immigrants, especially for students with lower ESCS. However, more research is needed to explore the mechanisms and moderators of this relationship, and to examine its implications for intercultural education and practice.

## Conclusions

The present study investigated the complex interplay between self-efficacy, adaptability, intercultural sensitivity, the ESCS, and attitudes towards immigrants among 15-year-old students in Türkiye. The results demonstrate that self-efficacy has a significant positive direct effect on intercultural sensitivity, adaptability, and attitudes towards immigrants. Likewise, the indirect effects of self-efficacy on attitudes towards immigrants through intercultural sensitivity and adaptability were significant. This suggests that intercultural sensitivity and adaptability partially mediate the relationship between self-efficacy and attitudes towards immigrants. Notably, the indirect effect through intercultural sensitivity was larger than the indirect effect through adaptability, indicating that intercultural sensitivity plays a stronger mediating role in this relationship. The conditional effects of self-efficacy on intercultural sensitivity and adaptability varied depending on the levels of the ESCS. The ESCS has also statistically significant direct effect on intercultural sensitivity, adaptability, and attitudes towards immigrants, but the effect on attitudes towards immigrants was negative. The mediator variables, intercultural sensitivity and adaptability, had significant effects on attitudes towards immigrants. The interaction between self-efficacy and the ESCS had a significant effect on intercultural sensitivity and adaptability, but not on attitudes towards immigrants.

The effect of self-efficacy on intercultural sensitivity was strongest for individuals with relatively low ESCS and weakest for individuals with relatively high ESCS. On the other hand, the effect of self-efficacy on adaptability was strongest for individuals with relatively high ESCS and weakest for individuals with relatively low ESCS. The conditional direct effect of self-efficacy on attitudes towards immigrants was significant for all levels of the ESCS, with the effect being strongest for individuals with relatively low ESCS and weakest for individuals with relatively high ESCS.

The conditional indirect effects of self-efficacy on attitudes towards immigrants through intercultural sensitivity and adaptability varied depending on the level of the ESCS. The indirect effect of self-efficacy on attitudes towards immigrants through intercultural sensitivity was strongest for individuals with relatively low ESCS and weakest for individuals with relatively high ESCS. Conversely, the indirect effect of self-efficacy on attitudes towards immigrants through adaptability was strongest for individuals with relatively high ESCS and weakest for individuals with relatively low ESCS.

The study provides empirical evidence that self-efficacy is a key predictor of attitudes towards immigrants, and that these relationships are mediated by intercultural sensitivity and adaptability, and moderated by the ESCS. The study also reveals some interesting differences between students with low and high ESCS in terms of how self-efficacy affects their intercultural sensitivity and adaptability. Using experimental or longitudinal designs, the causal mechanisms and psychological processes underlying the relationships between self-efficacy, intercultural sensitivity, adaptability, motivation to learn, and attitudes toward immigrants can be investigated. Students' awareness and appreciation of cultural diversity should be encouraged by designing and implementing a variety of activities.

## Limitations and further research

This study was based on the opinions of 15-year-old students who can reflect the developmental characteristics of adolescence in Türkiye. This is an important limitation for the current research. Also, the participants in the current study were studying in high schools and selected via the central examination system. Hence, they are all in the same type of schools and more homogeneous in terms of their socioeconomic status and academic success. Students of the same nature are more likely to be influenced by each other. Finally, the current study provides insights into the role of self-efficacy and its relationship with intercultural sensitivity and adaptability in influencing attitudes towards immigrants among Turkish students from different levels of the ESCS. On the other hand, attitudes towards immigrants are complex and can be influenced by a range of factors such as economic, political, social, cultural and individual characteristics. Hence, further researches are needed to gain a comprehensive understanding of these relationships.

**Authors' contributions** Ekber TOMUL: Planning the research, literature review analyzing the data, converting the analysis results into tables, interpreting and discussing the results; Erdal TASLIDERE: Literature review, organizing the data for analysis, English editing, interpreting the results; Selman ALMIS: Literature review, creating

figures, interpreting and discussing the results, formatting the references; Esin AÇIL: Literature review, downloading PISA, 2018 Turkey data, checking and formatting the references. All authors read and approved the final manuscript.

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**Data availability** Data from this study were taken from the data set collected with the PISA, 2018 application. PISA, 2018 data was obtained from <https://www.oecd.org/pisa/data/2018database/>.

The datasets used and analysed during the current study are available from the corresponding author on reasonable request.

## Declarations

We declared that all authors have agreed to the submission of this manuscript. We also declared that this work is original and has not been submitted or considered elsewhere. The authors declare no competing financial interest.

**Ethics approval and consent to participate** Because of PISA, 2018 data is used, no data was collected by the researchers. That's why researchers did not obtain ethical permission and written informed participant consent.

**Consent for publication** Not applicable.

**Competing interests** The authors declare that they have no competing interests.

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## References

- Aguirre-Urreta, M. I., & Hu, J. (2019). Detecting common method bias: Performance of the Harman's single-factor test. *ACM SIGMIS Database: the DATABASE for Advances in Information Systems*, 50(2), 45–70.
- Albarello, F., Manganelli, S., Cavicchiolo, E., Lucidi, F., Chirico, A., & Alivernini, F. (2023). Addressing adolescents' prejudice toward immigrants: The role of the classroom context. *Journal of Youth and Adolescence*, 52(5), 951–966.
- Bansak, K., Hainmueller, J., & Hangartner, D. (2016). How economic, humanitarian, and religious concerns shape European attitudes toward asylum seekers. *Science*, 354(6309), 217–222.
- Bentsen, B. M. A. (2022). Intergroup contact and negative attitudes towards immigrants among youth in Sweden: Individual and contextual factors. *Journal of International Migration and Integration*, 23(1), 243–266.
- Bultseva, M. A., & Lebedeva, N. M. (2021). The role of intercultural competence, in the relationship between intercultural experiences and creativity among students. *International Journal of Intercultural Relations*, 82, 256–264.
- Chen, F., Sakyi, A., & Cui, Y. (2021). Linking student, home, and school factors to reading achievement: The mediating role of reading self-efficacy. *Educational Psychology*, 41(10), 1260–1279.
- de Mamani, A. G. W., Rosales, G. A., & Navarro, M. (2007). Personal efficacy, attitudes towards immigrants, and voting behavior among Latino and white university students. *Revista Interamericana de Psicología/Interamerican Journal of Psychology*, 41(3), 341–348.
- Deardorff, D. K. (2006). Identification and assessment of intercultural competence as a student outcome of internationalization. *Journal of Studies in International Education*, 10(3), 241–266.
- Deveci, T., Elgamal, G., Dalton, D., & Langille, D. J. (2022). The development of Emirati university students' intercultural sensitivity. *Learning and Teaching in Higher Education: Gulf Perspectives*, 18(1), 62–73.
- Dražanová, L., & Gonnot, J. (2023). Attitudes toward immigration in Europe: Cross-regional differences [version 1; peer review: 2 approved, 2 approved with reservations]. *Open Res Europe*, 3:66 <https://doi.org/10.12688/openreseurope.15691.1>
- Eckstein, K., Miklikowska, M., & Noack, P. (2021). School matters: The effects of school experiences on youth's attitudes toward immigrants. *Journal of Youth and Adolescence*, 50, 2208–2223.
- Erdoğan, M. M. (2021). *Suriyelilerle uyum içinde yaşamın çerçevesi. Suriyeliler Barometresi-2020*. Ankara: Eğiten Kitap Yayıncılık.
- Esses, V. M. (2018). Immigration, migration, and culture. Oxford Research Encyclopedia of Psychology.
- Field, A. (2009). *Discovering statistics using SPSS: Book plus code for E version of text* (Vol. 896). SAGE Publications Limited.
- Gönültaş, S., & Mulvey, K. L. (2019). Social-developmental perspective on intergroup attitudes towards immigrants and refugees in childhood and adolescence: A roadmap from theory to practice for an inclusive society. *Human Development*, 63(2), 90–111.
- Gotseva-Balgaranova, K. (2023). Relations between self-efficacy and social-emotional competence. *Z Psychodrama Soziom*, 22(Suppl 2), 259–275.
- Gu, Y., Zhang, X., & Lin, Z. (2022). Factors affecting attitudes toward migrants: An international comparative study. *Chin. Polit. Sci. Rev.*, 7, 234–258.
- Hayes, A. F. (2022). *Introduction to mediation, moderation, and conditional process analysis: A regression-based approach* (3th ed.). The Guilford Press New York.
- Javdani, M. (2020). Public attitudes toward immigration—Determinants and unknowns. *IZA World of Labor*. 473. <https://doi.org/10.15185/izawol.473>.
- Karapınar Kocağ, E., & Longhi, S. (2022). Individual attitudes towards immigration in Turkey: Evidence from the European social survey. *Societies*, 12(6), 194.
- König, S., Stang-Rabrig, J., & McElvany, N. (2022). Adolescents' implicit attitudes towards people with immigrant background: Differences and correlates. *Social Psychology of Education*, 25(6), 1381–1409.
- Miklikowska, M. (2017). Development of anti-immigrant attitudes in adolescence: The role of parents, peers, intergroup friendships, and empathy. *British Journal of Psychology*, 108(3), 626–648.
- Mitchell, J. (2019). Context and change: A longitudinal analysis of attitudes about immigrants in adolescence. *Socius*, 5, 2378023119855157.
- Naveed, A., & Wang, C. (2021). Can attitudes toward immigrant explain social integration in Europe? EU versus non-EU migrant. *Social Indicators Research*, 153(1), 345–383.
- Nese, A. (2023). Migrations in Italy and perceptions of ethnic threat. *Journal of International Migration and Integration*, 24(3), 939–968.

- Ocampo, A. C. G., Restubog, S. L. D., Wang, L., Garcia, P. R. J. M., & Tang, R. L. (2022). Home and away: How career adaptability and cultural intelligence facilitate international migrant workers' adjustment. *Journal of Vocational Behavior*, 138, 103759.
- OECD (2019). PISA 2018 Results (Volume II): Where All Students Can Succeed, PISA, OECD Publishing, Paris. <https://doi.org/10.1787/b5fd1b8f-en>.
- OECD (2020a). Graph VI.3.10 - Students' attitudes towards immigrants: Average, dispersion and variations, by students' socio-demographic profile. In PISA 2018 results (volume VI): *Are students ready to thrive in an interconnected world?*. PISA, OECD Publishing. <https://doi.org/10.1787/c499d9d1-en>
- OECD (2020b). *PISA 2018 results (volume VI): Are students ready to thrive in an interconnected world*. PISA, OECD Publishing, Advance online publication. <https://doi.org/10.1787/d5f68679-en>
- Pallant, J. (2020). SPSS survival manual: A step by step guide to data analysis using IBM SPSS. McGraw-Hill Education.
- Perry, R., Priest, N., Paradies, Y., Barlow, F. K., & Sibley, C. G. (2018). Barriers to multiculturalism: In-group favoritism and out-group hostility are independently associated with policy opposition. *Social Psychological and Personality Science*, 9(1), 89–98.
- PISA (2018). PISA 2018 International database-Student questionnaire data file (SPSS). Retrieved November 21, 2022, from <https://www.oecd.org/pisa/data/2018database/>
- Rekker, R., Keijsers, L., Branje, S., & Meeus, W. (2015). Political attitudes in adolescence and emerging adulthood: Developmental changes in mean level, polarization, rank-order stability, and correlates. *Journal of Adolescence*, 41, 136–147.
- Schachner, M. K., He, J., Heizmann, B., & Van de Vijver, F. J. R. (2017). Acculturation and school adjustment of immigrant youth in six European countries: Findings from the Programme for international student assessment (PISA). *Frontiers in Psychology*, 8, 649. <https://doi.org/10.3389/fpsyg.2017.00649>
- Schmidt, K. (2021). The dynamics of attitudes toward immigrants: Cohort analyses for Western EU member states. *International Journal of Comparative Sociology*, 62(4), 281–310.
- Schöber, C., Schütte, K., Köller, O., McElvany, N., & Gebauer, M. M. (2018). Reciprocal effects between self-efficacy and achievement in mathematics and reading. *Learning and Individual Differences*, 63, 1–11.
- Sedillo-Hamann, D. (2023). Building adolescent self-efficacy and resilience through social action. *Child and Adolescent Social Work Journal*, 40, 409–417.
- Sortheix, F. M., & Lönngqvist, J. E. (2014). Personal value priorities and life satisfaction in Europe: The moderating role of socioeconomic development. *Journal of Cross-Cultural Psychology*, 45(2), 282–299.
- Stoessel, K., Titzmann, P. F., & Silbereisen, R. K. (2012). Young diaspora immigrants' attitude and behavior toward the host culture. *European Psychologist*, 17(2), 143–157.
- Suna, H. E., Tanberkan, H., Taş, U. E., Eroğlu, E., & Altun, Ü. (2019). PISA 2018 Türkiye ön raporu. Ankara: Milli Eğitim Bakanlığı. Retrieved July 17, 2023, from [https://www.meb.gov.tr/meb\\_iys\\_dosyalar/2019\\_12/03105347\\_PISA\\_2018\\_Turkiye\\_On\\_Raporu.pdf](https://www.meb.gov.tr/meb_iys_dosyalar/2019_12/03105347_PISA_2018_Turkiye_On_Raporu.pdf)
- Tabachnick, B. G., & Fidell, L. (2019). Using multivariate statistics (7th ed.). Pearson.
- Titzmann, P. F., & Jugert, P. (2017). Transition to a new country: Acculturative and developmental predictors for changes in self-efficacy among adolescent immigrants. *Journal of Youth and Adolescence*, 46, 2143–2156.
- UNHCR (2022). All inclusive: The campaign for refugee education. *UNHCR Education Report 2022*. Retrieved May 10, 2023, from <https://www.unhcr.org/631ef5a84/unhcr-education-report-2022-inclusive-campaign-refugee-education>
- UNICEF (2022). Child displacement. Retrieved January 7, 2023, from <https://data.unicef.org/topic/child-migration-and-displacement/displacement/#:~:text=Children%20make%20up%20less%20than,less%20than%201%20in%2020>
- Verkuyten, M. (2021). Public attitudes towards migrants: Understanding cross-national and individual differences. *World Psychiatry*, 20(1), 132.
- Veselska, Z., Geckova, A. M., Gajdosova, B., Orosova, O., van Dijk, J. P., & Reijneveld, S. A. (2010). Socio-economic differences in self-esteem of adolescents influenced by personality, mental health and social support. *European Journal of Public Health*, 20(6), 647–652.
- Wang, J., & Kim, S. (2021). Multilevel analysis of social and policy acceptance of immigrants across European countries and its implications for comparative policy. *Journal of Comparative Policy Analysis: Research and Practice*, 23(4), 416–467.

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