European Public & Social Innovation Review

ISSN 2529-9824

Research Article

Mood regulation through music in adolescence

Regulación del estado de ánimo a través de la música en la adolescencia

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Date of Reception: 25/05/2024

Acceptance Date: 04/09/2024

Publication Date: 25/10/2024

How to cite the article

Fernández-Company, J. F., García-Rodríguez, M., & Gamella González, D. J. (2024). Mood regulation through music in adolescence. [Regulación del estado de ánimo a través de la música en la adolescencia]. *European Public & Social Innovation Review*, 9, 01-18. https://doi.org/10.31637/epsir-2024-1363

Abstract

Introduction: The study explores the relationship between music as a stimulus and its benefits in mood self-regulation, focusing on adolescents' musical preferences. **Method:** 176 Spanish high school students aged 12 to 16 years (M_{age}= 13,6; *SD*= 1,24) participated. An ad hoc survey was used to collect data in order to analyze significant gender and developmental differences. **Results:** The results show that girls listen to significantly more music than boys and that music listening increases with age. Although pop is the most listened to genre, music preferences change during adolescence. Older adolescents use music more intentionally for emotional regulation, especially girls, who associate more music with emotions and use a greater variety of musical styles to regulate negative moods. **Discussion:** Mood regulation function correlates with musical preferences. **Conclusions:** The study reveals significant gender and developmental differences in the consumption and use of music for emotional regulation, highlighting the importance of taking these factors into account when understanding the emotional benefits of music in adolescents.

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Keywords: Music; mood; self-regulation; music preferences; adolescents; gender; emotional development; well-being.

Resumen
Introducción: El estudio explora la relación entre la música como estímulo y sus beneficios en la autorregulación del estado de ánimo, centrándose en las preferencias musicales de los adolescentes. **Metodología**: Participaron 176 estudiantes españoles de secundaria, de 12 a 16 años (*M*= 13,6; *DE*= 1,24). Mediante una encuesta ad hoc, se recogieron datos para analizar diferencias significativas según género y desarrollo. **Resultados**: Los resultados muestran que las chicas escuchan significativamente más música que los chicos y que la escucha de música aumenta con la edad. Aunque el *pop* es el género más escuchado, las preferencias musicales cambian durante la adolescencia. Los adolescentes mayores utilizan la música más intencionalmente para la regulación emocional, especialmente las chicas, quienes asocian más la música con emociones y utilizan una mayor variedad de estilos musicales para regular estados de ánimo negativos. **Discusión**: La función reguladora del estado de ánimo correlaciona con las preferencias musicales. **Conclusiones**: El estudio destaca diferencias significativas de género y desarrollo en el consumo y uso de la música para la regulación emocional, subrayando la importancia de considerar estos factores para entender los beneficios emocionales de la música en adolescentes.

Palabras clave: música; estado de ánimo; autorregulación; preferencias musicales; adolescentes; género; desarrollo emocional; bienestar.

1. Introduction

While mood self-regulation has been widely studied from different perspectives (Koo & Fishbach, 2014) and specifically during adolescence (Conover & Daiute, 2017; Swartbooi et al., 2016), to the best of our knowledge, there are no known studies that have specifically examined the relationship between the frequency, uses, functions, and musical preferences and mood self-regulation in an adolescent population.

The experience of moods is common to most people, and the events that trigger them are generally beyond our immediate control. Moreover, we may experience moments when our mood is not the desired one and feel compelled to take actions to control or regulate it (Erber, 2014). Similarly, general, or vague moods can lead people to use self-regulatory strategies to maintain a good mood or to modify/remove a bad mood. In particular, people who experience a bad mood engage in self-rewarding actions as therapy (Morris & Reilly, 1987). In short, our transient moods can have a profound impact on our decisions, behaviors, and cognitive processes (Erber & Erber, 2013).

With regard to the dynamics of emotional self-regulation, people select from different options for those actions that they consider more appropriate to achieve a goal (Fishbach et al., 2009). In particular, cognitive neuroscience suggests that successful self-regulation depends on top-down control from the prefrontal cortex to subcortical regions involved in reward and emotion (Heatherton & Wagner, 2011). Specifically, music is one of the most pleasurable stimuli that provides stronger rewards for most people (Salimpoor & Zatorre, 2013). Likewise, neuroimaging studies suggest that the reward system is fundamental to living these types of emotionally pleasurable experiences (Zatorre, 2015). From this perspective, hedonic motivation is one of the main goals of mood self-regulation. In this sense, even if some activities do not immediately improve mood, their delayed hedonic rewards can still promote long-term well-being (Larsen, 2000).

1.1. Music, Self-Regulation, and Adolescence

The functions of music have long attracted the interest of many researchers (Berry, 1987; Clayton, 2009; Perlovsky, 2012). Specifically, music is a very effective stimulus in emotional elicitation and identification (García-Rodríguez et al., 2023) and a very effective activity to reach aspects related to the improvement of well-being, namely emotional regulation (García-Rodríguez et al., 2023; Granot et al., 2021; Schäfer et al., 2012), connection with self and socialization (Granot et al., 2021; Schäfer et al., 2012) or with fun (Fernández-Company et al., 2020; Granot et al., 2021; Schäfer et al., 2012; van Goethem & Sloboda, 2011).

Specifically, mood regulation is one of the most important reasons for music engagement (Saarikallio, 2012), which in turn is one of the most effective resources people use to regulate their mood (Schäfer et al., 2013; Sorensen et al., 2019). In short, emotional regulation is generally considered to be the most important function of listening to music (Groarke & Hogan, 2016).

Listening to music is one of the usual activities in everyday life for many people, and although this practice is a pleasant activity in itself, its projection goes beyond mere amusement or entertainment (Welch et al., 2020), making music an excellent resource for improving people's well-being (Dingle et al., 2021). Although music is a universal phenomenon, it manifests an important cultural and interindividual versatility (Boer et al., 2012), perhaps due to the fact that affective expression in music depends on the combination of universal and specific factors of a particular culture (Laukka et al., 2013). Specifically, personal, and deliberate listening to music is used to satisfy specific emotional needs, determined by an initial mood that is influenced by each person's emotional state (Randall & Rickard, 2017). In addition, music can be a particularly effective factor in facilitating absorption (effortless engagement) because of the myriad ways in which it can be accessed (Herbert, 2012).

In general, people consciously or unconsciously use music to create, alter, or enhance their moods. In this sense, through specific uses of music and individual experiences, some of the mechanisms are developed through which music can facilitate elements that allow the organization of subjectivity, thus providing a framework for self-constitution (DeNora, 1999). The ability to understand and regulate emotions has important implications for health, and among the tactics relevant to their regulation, engagement with music seems to be a particularly beneficial practice. Thus, the ability to listen to the music one wants, when one wants, and to direct music toward the interests of mood regulation represents a valuable and convenient tool for affective regulation (Skånland, 2013).

Likewise, music helps through other broader affective regulation strategies, such as introspection or active coping. In addition, music plays an important role in the perception of happiness and relaxation. In short, music can perform a specific function for affective regulation in everyday life by forming a very efficient factor in the regulation of well-being through a wide range of underlying mechanisms that favor different adaptive strategies (van Goethem & Slododa, 2011).

From another line of analysis, adolescence is a period characterized by many personal changes and, although full of possibilities, it is also the time when many problems related to mental health may arise (Freitas et al., 2022; Papinczak et al., 2015). In particular, adolescence is a critical period for the improvement of self-regulation (King et al., 2018), in which the latter plays an important role in the development of adolescents, predicting success in several areas, including academic performance or social relationships (Farley & Kim-Spoon,

2014).The use of music is the activity of leisure and free predilect by adolescents (Fernández-Company et al., 2020; Papinczak et al., 2015). Most adolescents show that they use music mainly to have fun (Fernández-Company et al., 2020) or to improve their mood (McFerran et al., 2015; Papinczak et al., 2015), especially when their initial state is positive (McFerran et al., 2015). Through the musical activities they perform in their daily life, they use different strategies of mood regulation (Saarikallio & Erkkila, 2007). Therefore, music can be a very effective tool to support the self-regulation skills of adolescents' well-being (Uhlig et al., 2018).

In addition, the active involvement of adolescents in music has positive effects on their social and personal development when it is done through enjoyable and rewarding experiences (Hallam, 2010). At the same time, the development of various psychological functions in adolescents can be facilitated through participation in music, so that music can contribute positively to the development and mental health of adolescents by satisfying certain psychological goals (Laiho, 2004). In particular, adolescents prefer to listen to those styles of music that reflect the developmental problems they are experiencing (Schwartz & Fouts, 2003), with changes in musical preferences during adolescence (Delsing et al., 2008).

From the perspective of sociodemographic variables: gender and age, the musical preferences of both men and women are often related to positive emotional states such as love or happiness. In particular, women are more likely to associate music with emotions and use it to regulate their mood (Wells & Hakanen, 1991), i.e., girls use music to regulate mood more than their male counterparts (Saarikallio & Erkkila, 2007), so they use music more to perform affective functions, such as emotional expression, dancing, or cultural identity (Boer et al., 2012). Specifically, older adolescents use music more for emotional regulation than younger ones (Saarikallio & Erkkila, 2007).

While the pop style is consumed most by adolescents (Baker, 2001; Faure et al., 2020; Fernandez-Company et al., 2020), pop (Baker, 2001; Colley, 2008) and reggae are mostly consumed by girls and electronic music by boys (Fernandez-Company et al., 2020; Faure et al., 2020). Also, from the perspective of the use of music for mood regulation, this function correlates with the musical preferences of adolescents (McFerran et al., 2015). In this regard, Saarikallio and Erkkila (2007) suggest that the most intentional use of music for the regulation of strong feelings of mood or discharge seems to fit particularly well with musical preferences such as rock or heavy metal, and McFerran et al. (2015) explain that angry adolescents often prefer to listen to heavy metal music.

With this in mind, the main objective of this descriptive exploratory study is to analyze the frequency of listening, functions, musical preferences, and styles of music used for mood self-regulation during adolescence. Specifically, this study has as specific objectives to analyze whether there are evolutionary (age variable) or gender (sex variable) differences in:

1) musical preferences;
2) function and frequency;
3) and 3) musical styles used for mood self-regulation.

2. Methodology

Sample and procedure

The questionnaire used to collect the data was answered by 185 students with typical development from the first to the fourth course of compulsory secondary education in Spain [12-16 years (M = 13,6; SD = 1,24)], of whom 53,4% (94) were girls. The questionnaire used, developed ad hoc, was administered during school hours and in school premises, in groups with a maximum of 25 participants per group. There were no additional exclusion criteria for participation in the study.

The participating students were informed about the objectives of the study and that their participation in the study would be anonymous, voluntary, and disinterested. In this particular point, it was necessary that participation in the study would not require any identification. Likewise, the families and/or guardians were informed of the need for their prior informed consent to participate in this work. All these procedures concerning the ethical requirements of this research were carried out with the knowledge and by the educational guidance teams and the managers of the Educational Center according to the ethical principles established in the Declaration of Helsinki (WMA, 2001). The sample's participation in this study was anonymous, voluntary, and selfless, with minor students participating under the informed consent of their legal guardians or relatives. According to the Organic Law 3/2018, Protection of Personal Data and Guarantee of Digital Rights (BOE, 2018), the questionnaires outlined a confidential method for collecting information on participants, without gathering any additional personal information.

On the day of filling in the questionnaire, the students were reminded of the objectives of the research and asked to fill in the questionnaires honestly. The questionnaires that had not been filled in according to the predetermined or partial instructions were discarded.

Data collection and analysis instrument for this descriptive exploratory study (Jaeger & Halliday, 1998; Swedberg, 2020), an *ad hoc* questionnaire was designed (Boynton & Greenhalgh, 2004), which was divided into two main parts: 1) collection of socio-demographic data: (sex and age); 2) a battery of questions regarding the frequency of listening to music in a receptive and intentional manner, the functions attributed to this musical listening, musical preferences and the musical styles used when they perceived both a good and bad mood. Once the questionnaire was designed, a pilot test was conducted to improve the application and analysis of the data. In addition, this pre-test was intended to improve both format and content aspects (Jenn, 2006), in order to facilitate the compression of the questions and to reduce the tendency towards dichotomous and/or stereotyped responses. In short, this process of designing, piloting, and administering a questionnaire allows some questions to be reformulated with the intention of obtaining more reliable and interesting answers and results (Boynton, 2004).

Before commencing the study, we contacted the directors of the selected school and requested the necessary permits to conduct the research, ensuring institutional cooperation. We agreed on appropriate dates and times for administering the questionnaire and maintained an objective and neutral attitude when interacting with the students during the questionnaire administration. First, practical examples were provided to ensure a clear understanding of the implementation protocol. Doubts were resolved in advance, and sufficient time was given for pupils to ask questions. Doubts were clarified in a neutral and standardized way. Measures were taken to ensure an environment free of distractions during the questionnaire application. Active monitoring was carried out during administration to ensure the integrity of the collected data. This study employed a careful approach to data

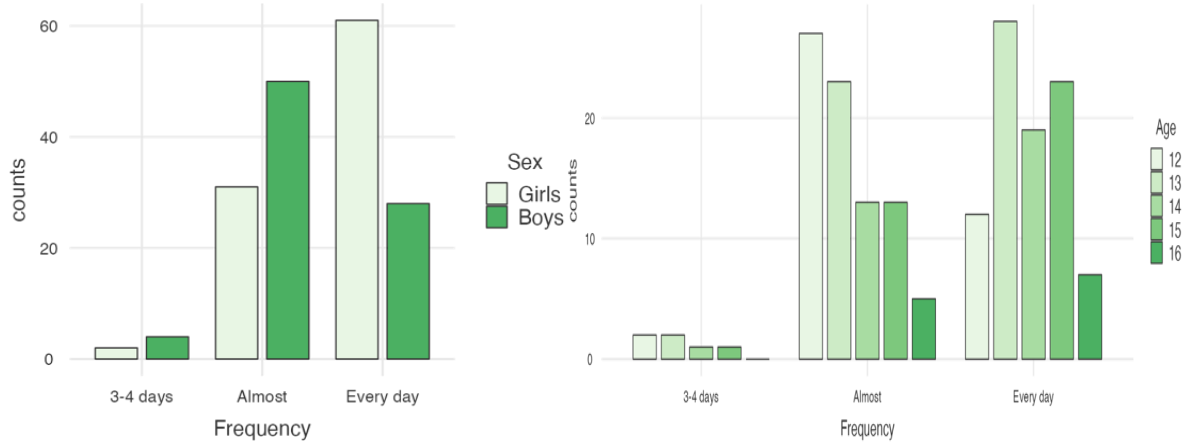
collection and application to ensure the quality and reliability of the information obtained. This contributed to the robustness of the study and strengthened the internal validity of the results.

3. Results

The analysis of variance revealed a significant difference between the categorical variable and the dependent variable (F= 258,5, p < ,001, η_p^2= ,64), indicating a large effect size according to Cohen's (1992) criteria. Technical terms are used appropriately, and the language is clear, concise, and objective. The sentence structure is simple, and the logical flow of information is maintained. The analysis of variance revealed a significant difference between the categorical variable and the dependent variable (F= 258,5, p < ,001, η_p^2= ,64), indicating a large effect size. Subsequent post-hoc analyses, using the Bonferroni correction, revealed significant differences in pairwise comparisons among several peer groups, including Age-Function, Age-Preference, Age-Preference good state of mind, Age-Preference bad mood, Function-Preference, Function-Preference good state of mind, Function-Preference bad mood, Preference-Preference Bad Humor, and Preference good state of mind-Preference bad mood (p < ,05).

Figure 1.

Frequency of deliberate musical listening according to the variables sex and age



Source: Author's elaboration (2024).

Figure 1 illustrates that the majority of adolescents listen to music on a daily or almost daily basis. There are notable differences based on gender and age. Statistical analysis revealed a significant interaction between the independent variable, frequency, and the dependent variable, age (p= ,021, η_p^2= ,04). Bonferroni post hoc tests indicated significant differences between specific pairs, particularly the near-daily and all-day music listening groups (p < ,05).

Table 1.

Main musical preferences in relation to the variables sex and age

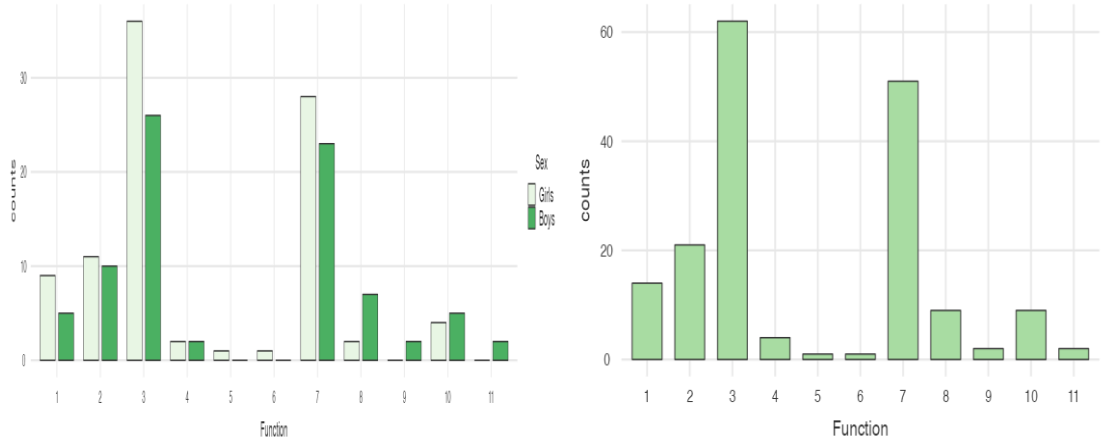
Sex	Age	Music Style	Percentage
Girls	12	*Pop*	6,3 %
	13	*Pop*	8,5 %
	14	*Trap*	4 %
	15	*Pop*	2,8 %
	16	*Pop - Trap - Rap*	1,1 %*
Boys	12	*Pop*	4,5 %
	13	*Pop*	2,8 %
	14	*Rap*	3,4 %
	15	*Trap*	4,5 %
	16	*Rap - Electronic music*	1,1 %*

Source: Author's elaboration (2024). * Each of the musical styles.

Table 1 presents the musical preferences of adolescents. Pop music (31,8%) is the most popular, followed by trap (17%) and reggaeton (15,9%). A Chi-square test was performed to analyze gender preferences, revealing a statistically significant relationship between gender and musical preferences ($\chi^2(12) = 28$, $p = ,006$).

Figure 2.

Total and gender functions of the functions attributed to musical listening by adolescents

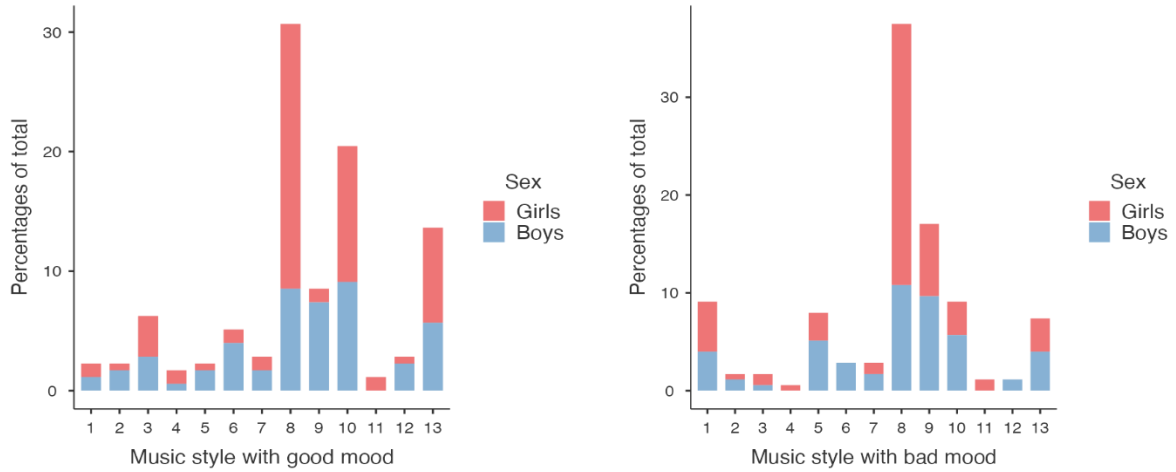


Source: Author's elaboration (2024). 1. study, 2. relax, 3. feeling well, 4. for all, 5. dancing, 6. activate, 7. have fun, 8. do sport, 9. motivate, 10. perform tasks at home, 11. for pleasure.

Figure 2 illustrates the correlation between music preferences and well-being. Pop music consumption tends to increase during negative emotional states. Adolescents use music mainly to elevate their emotional state (35,5%), entertain themselves (28,8%), relax (11,4%), and study (8,2%). There are notable differences in the functions of music according to sex and age, with boys using it more for sports (4,3%) and work (3,3%).

Figure 3.

Musical styles employed according to their state of mind based on the variable sex



Source: Author's elaboration (2024). 1. OST, 2. Heavy Metal, 3. Hip-hop, 4. Indie, 5. Classical music, 6. Electronic music, 7. Latin music, 8. Pop, 9. Rap, 10. Reggaeton, 11. Rock, 12. Rock & Roll, 13. Trap.

Likewise, Figure 3 clarifies how gender differences in musical choices manifest themselves according to emotional states. A Chi-square test indicated a significant relationship between gender and good mood ($\chi^2(12) = 28{,}36$, $p = {,}005$, Cramer's V = ,4). Additionally, a one-way analysis of variance revealed a significant difference between the categorical variable of good mood and the variable age (F=2,86, $p = {,}001$).

Table 2.

Main percentages of musical styles used in function depending on mood relative to age and gender variables

Perceived mood	Age	Sex	Music Style	Percentage
Good mood	12	Boys	*Pop*	2,8 %
		Girls	*Pop*	7,4 %
	13	Boys	*Pop - Reggaeton*	2,3 %*
		Girls	*Pop*	10,8 %
	14	Boys	*Reggaeton*	4 %
		Girls	*Reggaeton*	2,8 %
	15	Boys	*Pop - Trap*	2,3 %*
		Girls	*Reggaeton*	3,4 %
	16	Boys	*Rap*	1,1 %
		Girls	*Indie - Trap*	1,1 %*
Bad mood	12	Boys	*Pop*	3,4 %
		Girls	*Pop*	5,7 %
	13	Boys	*Pop*	2,3 %
		Girls	*Pop*	10,8 %
	14	Boys	*Rap*	2,8 %
		Girls	*Pop*	4,5 %
	15	Boys	*Rap*	2,8 %
		Girls	*Pop*	4 %
	16	Boys	*Pop*	2,1 %
		Girls	*Pop*	1,7 %

Source: Author's elaboration (2024). * Each of the musical styles.

Table 2 summarizes the percentages of musical styles associated with mood by age and sex. The variables age, sex, frequency of music listening, musical preferences, and perceived mood are significantly correlated. Specifically, age is positively correlated with frequency of music listening (r= ,202; *p*= ,007), while gender is negatively correlated (r= -.297; $p < ,001$). Additionally, there is a positive correlation between music preferences and the style of music listened to during both positive (r= ,598; $p < ,001$) and negative (r= ,405; $p < ,001$) mood states. The association is stronger in the former.

4. Discussion

This paper specifically investigated the relationship between frequency, function, musical preference, and mood self-regulation in a Spanish adolescent population. In this sense, the results of this study provide evidence for the existence of a direct relationship between musical preferences and the function attributed by adolescents to intentionally listening to music to regulate their mood. Furthermore, the results show that there is a strong dynamic relationship between musical preferences and adolescents' mood well-being. These novel findings also reveal significant developmental and gender differences that crystallize the relationship between music uses, functions, and preferences during adolescence.

First, the results obtained show that the vast majority of adolescents listen to music almost daily or every day, which is consistent with the inferences of other research indicating that music use is the leisure and recreational activity of choice for adolescents (Fernández-Company et al., 2020; MCUD, 2019; Papinczak et al., 2015). Specifically, in the data of this study, differences in terms of gender are appreciated, as girls have a significantly higher consumption of music than boys. In terms of age, from the age of thirteen, an increase in the frequency of deliberate music listening is perceived in all age groups. In short, it has been observed that the variable of age is significantly correlated with the frequency with which adolescents listen to music. Likewise, the frequency with which adolescents listen to music shows two significant linear correlations, one with musical preference and the other with the variable of perceived good mood.

In terms of musical preferences, the results analyzed generally show that *pop* is the music most listened to by adolescents, followed by *trap* and *reggaeton*. In this sense, the results are consistent with data from other studies that indicate that *pop* music style is the most consumed by adolescents (Baker, 2001; Dunbar-Hall & Wemyss, 2000; Faure et al., 2020; Fernández-Company et al., 2020; MCUD, 2019; Stålhammar, 2000). When analyzing this block, significant differences are found from a gender perspective. Our results show that *pop* is the music style most listened to by both girls and boys. However, the detailed analysis of the results deserves some qualification. Although consistent with the fact that the majority of girls listen to reggaeton and boys listen to electronic music (Colley, 2008; Fernández-Company et al., 2020; Faure et al., 2020), *pop*, *hip-hop*, and *rock* predominate in girls' listening and *rap* in boys' listening, while *trap* listening is equally distributed between boys and girls. Thus, according to Delsing et al. (2008), both girls' and boys' musical preferences change during adolescence.

Regarding the use of music with an intentional function, it is estimated that adolescents use music listening mainly to feel good, have fun, relax, and study. These findings are consistent with previous research that highlights that most adolescents use music mainly to improve their mood (McFerran et al., 2015; Papinczak et al., 2015) or to have fun (Fernández-Company et al., 2020). Thus, adolescents find different strategies for mood regulation

through musical activities they perform in their daily lives, such as listening to music (Saarikallio & Erkkilä, 2007). Therefore, we believe that music can be a very effective tool to support adolescents' self-regulation skills of well-being (Uhlig et al., 2018).

In particular, girls use music more than their male peers for these four functions (feeling good, having fun, relaxing, and studying), and boys use it more than girls for sports and while doing homework. From this perspective of the sociodemographic variable of gender, the results are consistent with those of other studies that show that females tend to associate music with emotions and use it to regulate their mood more than boys (Wells & Hakanen, 1991), i.e., girls use music to regulate their mood more than their male peers (Saarikallio & Erkkilä, 2007), thus they use music more for functions related to emotional expression, dancing, or cultural identity (Boer et al., 2012).

Regarding the age variable, our results are consistent with those of Saarikallio & Erkkilä (2007), as older adolescents use music with more intentionality for emotional regulation than younger ones. However, it should be noted that our results show evolutionary changes in terms of the functionality they assign to music, as adolescents at 12 years of age use music mainly to feel good emotionally, at 13 and 14 years of age they use it mainly to have fun, and at 15 and 16 years of age they use it again mainly to feel good emotionally.

In short, these results are consistent with other research that shows that listening to music is a habitual activity in the daily life of many people, and although this practice is a pleasurable activity in itself, its projection goes beyond mere amusement or entertainment (Welch et al., 2020). Therefore, we believe that due to the easy access to music and the myriad ways to consume it, this stimulus can be particularly effective in facilitating absorption (effortless engagement) (Herbert, 2012), which in turn is an excellent resource for improving people's well-being (Dingle et al., 2021), as many people resort to personal and deliberate music listening as a strategy to satisfy specific emotional needs (Randall & Rickard, 2017).

Although this study provides important results from a new perspective that allows us to analyze the role of mood self-regulation through music consumption by adolescents, this study has certain limitations. It is worth mentioning that this research was conducted with a limited number of Western participants. Therefore, we would like to replicate this study to learn about the scope of research in other cultures and with larger samples, such as clinical populations, at risk of social exclusion, or with special educational needs. Similarly, we would like to design this type of study longitudinally, using mixed methods and validated instruments, to determine possible correlations between psychological constructs such as anxiety, life satisfaction, or self-esteem, and measures of academic achievement. In this sense, as indicated throughout the article, the study of adolescent music listening, analyzed from this perspective, is a complex phenomenon in which reductionist interpretations of the results should be avoided, considering the psychosocial context and the influence of peers.

Nevertheless, and despite these limitations, this study provides novel data examined from the perspective of the gender variable: when girls feel good, they listen mainly to *pop*, *reggaeton*, and *trap* music styles; in the case of boys, they listen mainly to *reggaeton*, *pop*, and *rap*. Specifically, when girls feel bad, they find more support in music styles such as *pop*, *rap*, *original movie soundtracks*, and *trap*, while boys mostly use the same music styles as when they feel good, but *pop* gets the highest percentages. Thus, it seems that girls are more likely than boys to consume a wider variety of music styles to regulate negative moods. From this approach, our results do not agree with those analyzed from the perspective of McFerran et al. (2015), who indicate that angry adolescents tend to listen to heavy metal, nor with those of Saarikallio and Erkkilä (2007), who suggest that a more intentional use of music aimed at

regulating strong mood sensations or discharge seems to fit particularly well with musical preferences such as *rock* or *heavy metal*. In particular, the findings from the nuance of music use for mood regulation correlate with adolescents' musical preferences. Specifically, it can be seen that although musical preference maintains significant correlations with both the musical styles used by adolescents when they feel bad or good moods, it has a greater significant correlation with the latter.

Following this line of argument, we believe that adolescents turn to those styles of music that empathize with the emotional states they are experiencing at a particular moment. Therefore, in line with Skånland (2013), we assume that the possibility of listening to the music one wants, when one wants, and the fact of being able to direct the music to the interests of mood regulation, represents a valuable and convenient tool of affective regulation, which is very effective in facilitating the development of self-regulation skills of adolescents' well-being (Uhlig et al., 2018).

Having wielded the analysis of the results, we agree that music is a very effective stimulus in emotional elicitation and identification (García-Rodríguez et al., 2023) and a very effective activity to achieve aspects related to the improvement of aspects related to the well-being of adolescents, namely emotional regulation (García-Rodríguez et al., 2023; Granot et al., 2021; Schäfer et al., 2012), connection with oneself (Granot et al., 2021; Schäfer et al., 2012) and fun (Fernández-Company et al., 2020; Granot et al., 2021; Schäfer et al., 2012; van Goethem & Sloboda, 2011).

In this sense, we consider that adolescents engage in self-gratifying actions as therapy and that listening to music is a type of self-regulatory strategy adopted with the aim of maintaining a good mood or modifying or eliminating it when it is bad (Morris & Reilly, 1987). Specifically, since music is one of the most pleasurable stimuli and one of the stimuli that provides strong rewards for most people (Salimpoor & Zatorre, 2013), and since the reward system is fundamental for living this type of emotionally pleasurable experience (Zatorre, 2015), it is logical to imagine that this is one of the main goals of mood self-regulation from the perspective of hedonic motivation. In this sense, we consider that listening to music is one of the activities that, although not immediately mood-enhancing, can provide delayed hedonic rewards that facilitate perceived well-being in the long term (Larsen, 2000).

In this sense, we believe that through the specific uses of music and individual experiences, adolescents develop some of the mechanisms by which they can organize subjectivity and thus provide a scaffolding for their self-constitution (DeNora, 1999). Ultimately, we believe that music can serve a specific function for affective regulation in everyday life through a variety of underlying mechanisms (van Goethem & Sloboda, 2011; Ziv & Hollander-Shabtai, 2022). Specifically, in line with Schwartz and Fouts (2003), we infer that adolescents identify with and choose to listen to those musical styles that best empathize with their psychosocial needs.

5. Conclusions

These findings offer valuable insights into the complex interplay among demographic factors, music-related behaviors, and emotional states among adolescents, emphasizing the importance of a nuanced understanding of these relationships.

Sociological impact. The study highlights the impact of music on adolescents, indicating that it not only reflects their subculture but also plays a significant role in their identity

formation. The correlation between musical preferences and emotional states emphasizes the role of music in shaping social well-being.

Educational potential. Music is a valuable resource for teachers. The study suggests that incorporating music into educational programs can create positive learning environments. This study argues that music education not only enhances students' educational experiences but also equips them with skills to regulate their mood using music. Additionally, we advocate for the therapeutic use of music in various educational and social contexts. The study proposes tailoring music therapy sessions based on individual preferences to address emotional problems and facilitate mood self-control.

Finally, families, educators, and health professionals should acknowledge the role of music in adolescents' lives and guide them in using music for emotional self-regulation. The study emphasizes the importance of these social agents in fostering a healthy relationship between adolescents and music. Additionally, the study acknowledges the pervasive impact of digital access on music consumption among teenagers. The article explores the evolving nature of musical preferences throughout adolescence, including gender-related differences.

In short, drawn is that listening to music is a conscious and adaptive strategy for adolescents to regulate their moods and address their affective needs. The study suggests the need for further research in this area, particularly in therapeutic and educational contexts. It is advocated that music should have a greater presence in compulsory secondary education due to its motivational impact on adolescents.

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Contribuciones de los/as autores/as:

Conceptualización: Gamella González, David José; **Software:** Fernández Company, José Fernando; **Validación:** Fernández Company, José Fernando **Análisis formal:** Fernández Company, José Fernando; **Curación de datos:** Gamella González, David José**; Redacción-Preparación del borrador original:** Fernández Company, José Fernando; **Redacción-Revisión y Edición:** García Rodríguez, María **Visualización:** Gamella González, David José; **Supervisión:** García Rodríguez, María **Administración de proyectos:** Gamella González, David José; **Todos los/as autores/as han leído y aceptado la versión publicada del manuscrito:** Fernández Company, José Fernando; Gamella González, David José; García Rodríguez, María.

Financiación: Esta investigación no recibió financiamiento externo.

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