

Music Preferences as Moderators of Stress and Emotion Regulation among Young Adults

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ABSTRACT

This study examined whether music preferences moderate the relationship between perceived stress and emotion regulation among young adults. A cross-sectional sample of 308 young adults aged 18–25 years completed the Perceived Stress Scale (PSS), Emotion Regulation Questionnaire (ERQ), and Short Test of Music Preferences (STOMP). Results indicated that perceived stress was positively associated with both cognitive reappraisal and expressive suppression. Pearson correlation and hierarchical regression analyses were conducted. Music preferences significantly moderated the relationship between perceived stress and cognitive reappraisal across all four music dimensions, with Energetic and Rhythmic preference showing the strongest effect. For expressive suppression, only Upbeat and Conventional preference demonstrated a significant moderation effect. Findings suggest that stable music preferences may function as dispositional factors shaping emotional regulation under stress. The study highlights the relevance of individual differences in musical orientation for understanding coping and emotional functioning among young adults.

Keywords: *Perceived Stress, Emotion Regulation, Music Preference, Moderation, Young Adults*

Stress is widely recognized as a central psychological concern during young adulthood, a period marked by increasing academic, social, and occupational demands. Rather than referring solely to external stressors, perceived stress reflects how individuals subjectively evaluate life situations as unpredictable, uncontrollable, or overwhelming (Cohen, Kamarck, & Mermelstein, 1983). This subjective appraisal is critical because individuals exposed to similar circumstances may differ considerably in their emotional experiences depending on how stress is interpreted.

Emotion regulation refers to the ways in which individuals consciously regulate what emotions they have, when they have them, and how they express those emotions (Gross, 1998). Cognitive reappraisal and expressive suppression are two of the most widely studied regulation strategies. Cognitive reappraisal refers to the changing of the interpretation of a situation with the goal of altering its emotional response, whereas expressive suppression

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refers to suppressing the expression of emotions (Gross & John, 2003). It is considered more adaptive than suppression.

The relationship between stress and emotion regulation is theoretically grounded in appraisal-based models of stress. According to Lazarus and Folkman (1984), emotional outcomes depend on how individuals interpret and cope with stressors. Higher perceived stress may activate regulatory efforts, yet excessive stress can also impair regulation efficiency. This suggests that the stress-emotion regulation relationship may be influenced by individual difference variables.

One factor that may shape emotional responses to stress is music. During young adulthood, music plays a significant role beyond entertainment, contributing to emotional expression, mood management, and identity formation. Research has shown that individuals develop relatively stable patterns of music preference, which are associated with affective tendencies and personality traits (Rentfrow & Gosling, 2003). These preferences have been categorized into four broad dimensions: reflective and complex, intense and rebellious, upbeat and conventional, and energetic and rhythmic. Each dimension differs in emotional tone, arousal level, and cognitive engagement, suggesting potential relevance to emotional regulation processes.

Previous studies have largely examined music as an active coping mechanism used to regulate mood or reduce stress. Empirical evidence indicates that music listening can influence physiological arousal, emotional expression, and subjective mood states (Schäfer et al., 2013). However, this body of research has primarily focused on situational music use rather than on dispositional music preferences. As a result, relatively little is known about how stable musical orientations may shape emotional regulation processes even in the absence of deliberate music listening.

From an interactionist perspective, emotional outcomes result from the interplay between situational factors and stable individual characteristics. Music preference may reflect broader emotional orientation, arousal sensitivity, and cognitive engagement style. For instance, preference for reflective and complex music may align with greater introspective processing, whereas energetic and rhythmic preferences may reflect heightened stimulation tendencies. These dispositional patterns may influence how individuals regulate emotions under stress.

Despite increasing research on stress and emotion regulation, and growing literature on music and emotional functioning, limited empirical work examines music preference as a moderating variable in the stress-regulation relationship. Most studies explore direct associations between stress and emotion regulation (Gross & John, 2003) or investigate music as a coping intervention (Schäfer et al., 2013). The potential moderating role of stable music preferences remains underexplored.

Young adulthood represents a particularly relevant developmental period for such an investigation. This phase is often characterized by heightened stress due to academic pressures, career uncertainty, and identity exploration, while simultaneously being a period in which music plays a central role in emotional life (Rentfrow & Gosling, 2003). Examining how music preferences interact with perceived stress to influence emotion regulation strategies may therefore provide meaningful psychological insights.

The current study aims to fill this research gap by investigating whether music preferences moderate the relationship between perceived stress and emotion regulation strategies, namely cognitive reappraisal and expressive suppression, among young adults. By integrating theoretical perspectives on stress appraisal (Lazarus & Folkman, 1984), emotion regulation (Gross, 1998), and music preference (Rentfrow & Gosling, 2003), the study aims to extend understanding of emotional functioning under stress.

Rather than viewing music solely as an external coping tool, the present research positions music preference as a stable dispositional characteristic that may shape regulatory processes. Investigating this interaction contributes to understanding how situational stress and enduring personal orientations jointly influence emotional regulation among young adults.

MATERIALS AND METHODS

Objectives

1. To investigate the relationship between perceived stress and emotion regulation strategies among young adults.
2. To explore the relationship between various dimensions of music preference and emotion regulation strategies among young adults.
3. To find out whether music preferences moderate the relationship between perceived stress and emotion regulation strategies among young adults.

Hypotheses

- **H1:** Perceived stress is significantly related to emotion regulation among young adults.
- **H2:** Music preferences are significantly related to emotion regulation among young adults.
- **H3:** Music preferences significantly moderate the relationship between perceived stress and emotion regulation strategies among young adults.

Participants

The sample for the study was drawn from 308 young adults aged 18 to 25 years. The sampling technique used was convenience sampling. Individuals belonging to different academic disciplines were included in order to ensure variability in stress experiences and emotional regulation patterns. Both male and female participants were part of the sample.

Participant demographic characteristics were as follows: the mean age of the participants was 21.8 years ($SD = 2.04$). Of the total sample ($N = 308$), 92 were male, 149 were female, and 67 identified as other or preferred not to disclose.

The criteria for participation in the study included being within the age bracket of 18 to 25 years and giving informed consent to participate in the study. The study was voluntary, and the participants were assured that their data would only be used for academic purposes and that no personal information would be collected.

Young adulthood was selected as the target age group because this developmental period is commonly associated with increased academic pressure, career-related uncertainty, and psychosocial transitions, making it particularly relevant for the examination of perceived stress and emotion regulation processes.

Materials

The following standardized psychological instruments were used in the present study:

1. **Perceived Stress Scale (PSS):** Perceived stress was measured using the Perceived Stress Scale developed by Cohen, Kamarck, and Mermelstein (1983). The scale assesses the degree to which individuals appraise situations in their lives as stressful during the past month. It consists of 10 items rated on a 5-point Likert scale ranging from 0 (never) to 4 (very often). Higher scores indicate higher levels of perceived stress. The PSS has demonstrated satisfactory internal consistency and construct validity across diverse populations.
2. **Emotion Regulation Questionnaire (ERQ):** Emotion regulation strategies were assessed using the Emotion Regulation Questionnaire developed by Gross and John (2003). The ERQ consists of 10 items measuring two dimensions: cognitive reappraisal (6 items) and expressive suppression (4 items). Responses are recorded on a 7-point Likert scale ranging from 1 (strongly disagree) to 7 (strongly agree). Higher scores on each subscale indicate greater use of the respective emotion regulation strategy. The ERQ has been widely used and demonstrates adequate reliability and validity.
3. **Short Test of Music Preferences (STOMP):** Music preferences were measured using the Short Test of Music Preferences (STOMP) developed by Rentfrow and Gosling (2003). The scale assesses preferences across four broad dimensions: reflective and complex, intense and rebellious, upbeat and conventional, and energetic and rhythmic. Participants rate their liking for various music genres on a 7-point Likert scale ranging from 1 (strongly dislike) to 7 (strongly like). Higher scores reflect stronger preference for the respective music dimension. The STOMP has shown acceptable reliability and factorial validity in previous research.

Data Collection

The data was collected using an online survey format that included all the measures of the study. The survey was conducted using a digital platform to make it easily accessible for participation among young adults. Before the start of the survey, the participants were given information about the nature of the study and were required to give their informed consent electronically.

The participants were assured that their responses would be kept confidential and that their participation in the study was voluntary. They were also made aware of their right to withdraw from the study at any time without penalty.

The data collection procedure was carried out over a set period of time during the academic semester. The completed responses were screened to ensure that all the participants met the criteria for inclusion in the study and that the questionnaires were completed. After screening, 308 valid responses were selected for statistical analysis.

Scoring

Responses on the Perceived Stress Scale were scored in accordance with standard guidelines. Items were rated on a five-point Likert scale, and positively worded items were reverse scored prior to computing total scores. Higher total scores reflected greater levels of perceived stress.

Music Preferences as Moderators of Stress and Emotion Regulation among Young Adults

For the Emotion Regulation Questionnaire, separate scores were calculated for cognitive reappraisal and expressive suppression by computing the mean of the respective items. Higher mean scores indicated greater use of the corresponding emotion regulation strategy. Music preference scores were derived by averaging the items corresponding to each of the four STOMP dimensions: reflective and complex, intense and rebellious, upbeat and conventional, and energetic and rhythmic. Higher scores represented stronger preference for the respective music category. All scoring procedures were conducted prior to statistical analysis to ensure accuracy and consistency.

Variables

The present study includes the following variables:

- **Independent Variable:** Perceived stress, operationalized as the total score obtained on the Perceived Stress Scale.
- **Dependent Variable:** Emotion regulation strategies, operationalized through two dimensions—cognitive reappraisal and expressive suppression—as measured by the Emotion Regulation Questionnaire.
- **Moderator Variable:** Music preferences, operationalized through four dimensions measured by the Short Test of Music Preferences: reflective and complex, intense and rebellious, upbeat and conventional, and energetic and rhythmic.

Perceived stress was examined as the predictor variable, emotion regulation strategies were treated as outcome variables, and music preference dimensions were tested as moderators influencing the strength of these relationships.

Statistical Analysis

Data were analyzed using Jamovi version 2.7.6. Descriptive statistics were computed to summarize participant characteristics and the distribution of study variables. Pearson's product-moment correlation analysis was conducted to examine relationships among perceived stress, music preference dimensions, and emotion regulation strategies.

To examine the moderating role of music preferences, moderation analyses were performed using multiple regression models with interaction terms. Perceived stress was entered as the predictor variable, emotion regulation strategies were entered as outcome variables, and music preference dimensions were entered as moderators. Predictor and moderator variables were mean-centered prior to creating interaction terms in order to reduce multicollinearity.

Separate regression models were computed for cognitive reappraisal and expressive suppression. A significant interaction term indicated the presence of a moderation effect. Statistical significance was evaluated at the .05 level.

RESULTS

Reliability and Descriptive Analysis

Table No. 1 Reliability Coefficients of Study Variables (N = 308)

Scale	Cronbach's α
Perceived Stress Scale (PSS)	0.787
ERQ - Cognitive Reappraisal	0.788
ERQ - Expressive Suppression	0.660
STOMP - Reflective & Complex	0.678
STOMP - Intense & Rebellious	0.577

Music Preferences as Moderators of Stress and Emotion Regulation among Young Adults

Scale	Cronbach's α
STOMP - Upbeat & Conventional	0.681
STOMP - Energetic & Rhythmic	0.643

Cronbach's alpha coefficients indicated acceptable internal consistency for the study instruments. The Perceived Stress Scale ($\alpha = 0.787$) and Cognitive Reappraisal ($\alpha = 0.788$) demonstrated good reliability, while Expressive Suppression showed moderate reliability ($\alpha = 0.660$). The music preference dimensions ranged from 0.577 to 0.681, indicating acceptable consistency for exploratory research. Some music preference subscales demonstrated lower internal consistency, which is consistent with prior research using STOMP in diverse samples.

Table No. 2 Descriptive Statistics of Study Variables (N = 308)

Variable	Mean	SD	Min	Max
Perceived Stress	2.13	0.431	1.10	3.70
Cognitive Reappraisal	4.32	1.10	1.17	7.00
Expressive Suppression	4.23	1.18	1.50	7.00
Reflective & Complex	4.21	1.17	1.25	7.00
Intense & Rebellious	4.23	1.20	1.00	7.00
Upbeat & Conventional	4.36	1.19	1.00	7.00
Energetic & Rhythmic	4.39	1.28	1.00	7.00

Descriptive statistics revealed moderate levels of perceived stress among participants ($M = 2.13$, $SD = 0.431$). Mean scores for Cognitive Reappraisal ($M = 4.32$, $SD = 1.10$) and Expressive Suppression ($M = 4.23$, $SD = 1.18$) suggest that young adults in the sample reported relatively frequent use of both emotion regulation strategies. Among music preferences, Energetic & Rhythmic ($M = 4.39$) and Upbeat & Conventional ($M = 4.36$) showed slightly higher endorsement compared to other dimensions.

These findings indicate adequate variability across variables, allowing further inferential analyses.

Correlation Analysis

Table No. 3 Correlation Matrix of Study Variables

Variable	1	2	3	4	5	6	7	Mean	SD
Perceived Stress								2.13	0.431
Cognitive Reappraisal	0.162**							4.32	1.10
Expressive Suppression	0.222***	0.628**						4.23	1.18
Reflective & Complex	0.209***	0.483**	0.440**					4.21	1.17
Intense & Rebellious	0.088	0.422**	0.290**	0.494**				4.23	1.20
Upbeat & Conventional	0.149**	0.562**	0.403**	0.625**	0.617**			4.36	1.19
Energetic & Rhythmic	0.211***	0.495**	0.397**	0.638**	0.593**	0.707**		4.39	1.28

Note. ** $p < .01$, *** $p < .001$.

Pearson's correlation analysis indicated that perceived stress was positively associated with Cognitive Reappraisal ($r = 0.162$, $p < .01$) and Expressive Suppression ($r = 0.222$, $p < .001$). The positive relationships suggest that higher levels of perceived stress are associated with increased engagement in both antecedent-focused (reappraisal) and response-focused (suppression) regulation strategies. Although prior research often reports a negative association, the present findings may reflect increased regulatory efforts under stress, suggesting that individuals actively attempt to cognitively manage heightened stress levels. This finding supports Hypothesis 1, which proposed a significant relationship between perceived stress and emotion regulation.

Rather than indicating dysregulation, the findings suggest that stress may activate regulatory attempts among young adults. Individuals appear to respond to heightened stress by increasing their efforts to cognitively reinterpret or behaviorally manage emotional experiences. Music preference dimensions were significantly correlated with emotion regulation strategies, supporting Hypothesis 2.

A full correlation matrix including all study variables is presented in Table 3.

Moderation Analysis: Cognitive Reappraisal

Table No. 4 Moderation Analysis Predicting Cognitive Reappraisal

Moderator	β (Interaction)	p	R²
Reflective & Complex	-0.256	0.022	0.251
Intense & Rebellious	-0.276	0.012	0.211
Upbeat & Conventional	-0.346	<.001	0.353
Energetic & Rhythmic	-0.415	<.001	0.294

Hierarchical regression analyses were conducted to examine whether music preferences moderated the relationship between perceived stress and cognitive reappraisal.

The interaction effects were statistically significant for all four music dimensions:

- Reflective & Complex ($\beta = -0.256$, $p = 0.022$)
- Intense & Rebellious ($\beta = -0.276$, $p = 0.012$)
- Upbeat & Conventional ($\beta = -0.346$, $p < .001$)
- Energetic & Rhythmic ($\beta = -0.415$, $p < .001$)

The negative interaction coefficients indicate that stronger music preferences weakened the strength of the positive relationship between stress and reappraisal. In other words, individuals with higher music preference scores demonstrated a more stable use of cognitive reappraisal that was less dependent on stress levels.

Among the moderators, Energetic & Rhythmic music demonstrated the strongest interaction effect, suggesting that individuals inclined toward high-energy musical styles may process stress differently at a cognitive level. These findings support Hypothesis 3 with respect to cognitive reappraisal.

The results suggest that music preference may function as a dispositional emotional resource that shapes how individuals cognitively reinterpret stressful experiences.

Moderation Analysis: Expressive Suppression

Table No. 5 Moderation Analysis Predicting Expressive Suppression

Moderator	β (Interaction)	p	R ²
Reflective & Complex	-0.118	0.334	0.214
Intense & Rebellious	-0.167	0.175	0.128
Upbeat & Conventional	-0.267	0.014	0.205
Energetic & Rhythmic	-0.175	0.107	0.185

A parallel moderation analysis was conducted for expressive suppression. Only the Upbeat & Conventional music dimension demonstrated a statistically significant interaction effect ($\beta = -0.267$, $p = 0.014$). The other dimensions—Reflective & Complex, Intense & Rebellious, and Energetic & Rhythmic—did not show significant moderation effects ($p > .05$). These findings indicate that music preference plays a more selective role in shaping response-focused regulation strategies such as suppression. Thus, Hypothesis 3 was partially supported for expressive suppression.

The pattern suggests that music preferences may influence cognitive regulation mechanisms more strongly than behavioral inhibition processes. Cognitive reappraisal involves reinterpretation of emotional meaning, which may align more closely with affective engagement through music. In contrast, expressive suppression may be influenced more heavily by situational or social norms rather than dispositional musical orientation.

DISCUSSION

The present findings highlight three key observations. First, perceived stress was positively associated with both emotion regulation strategies. This suggests that stress does not merely impair regulation but may stimulate regulatory engagement among young adults.

Second, music preferences significantly moderated the stress–reappraisal relationship, indicating a buffering effect, this buffering effect of music preference may be understood through emotion regulation theory (Gross, 1998), which emphasizes that individual differences influence how emotional responses are generated and modified. Music preferences may reflect stable affective and cognitive styles that shape regulatory tendencies, thereby reducing reliance on stress-triggered regulation.

Third, moderation effects were weaker and more selective for expressive suppression. This differentiation supports the idea that antecedent-focused and response-focused regulation strategies operate through distinct psychological mechanisms.

Overall, the findings support an interactionist perspective, where emotional outcomes are shaped by both situational factors (perceived stress) and individual difference variables (music preference).

Theoretical Implications

The study extends existing literature by conceptualizing music preference as a moderating variable rather than merely a coping behavior. Instead of examining music listening as an intervention, the study highlights the role of stable musical orientation in shaping emotional processes.

Furthermore, the differentiated moderation patterns across music dimensions underscore the importance of examining multidimensional models of music preference rather than treating music as a single unified construct.

Practical Implications

From an applied perspective, understanding music preference patterns may provide insight into individual stress regulation styles. Psychological interventions and stress management programs may benefit from incorporating individualized music-based elements aligned with personal preference profiles.

However, music preference should be understood as a complementary factor rather than a standalone determinant of emotional functioning.

Limitations

The present study should be interpreted in light of certain limitations. First, the use of convenience sampling may limit the generalizability of the findings to broader populations of young adults. Second, the cross-sectional research design prevents causal conclusions regarding the relationship between perceived stress, music preferences, and emotion regulation. Third, the use of self-report measures may have introduced response bias, including social desirability and subjective interpretation of items. Fourth, some music preference subscales demonstrated modest internal consistency, suggesting that findings related to these dimensions should be interpreted with caution. Finally, cultural and regional influences may shape music preferences, which may limit the applicability of the results across diverse sociocultural contexts.

Future Directions

Future research may employ longitudinal designs to better understand causal relationships between perceived stress, music preferences, and emotion regulation over time. Studies using more diverse and culturally varied samples would improve the generalizability of findings. In addition, experimental research may examine whether music-based interventions tailored to individual preference profiles can enhance adaptive emotion regulation and reduce stress among young adults.

CONCLUSION

Perceived stress activates both cognitive and behavioral emotion regulation processes in young adults. Music preference functions as a dispositional regulatory context rather than merely a coping activity. Music preferences stabilize cognitive reappraisal under stress conditions. Energetic and rhythmic music preference demonstrates the strongest moderating influence on stress-related cognitive processing. Upbeat and conventional music preference influences behavioral regulation under stress. Music preferences affect antecedent-focused strategies more strongly than response-focused strategies. Individual differences in musical orientation shape emotional processing patterns during stress. Music preference emerges as a significant psychological moderator in the stress–emotion regulation relationship.

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Music Preferences as Moderators of Stress and Emotion Regulation among Young Adults

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Conflict of Interest

The author(s) declared no conflict of interest.

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