

# Parental Pressure and Performance Anxiety Among High School Athletes: A Comparative Study of Immigrant and Non-Immigrant Households in the Palos Verdes Region

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## ABSTRACT

This study examines the relationship between perceived parental pressure and performance anxiety among high school athletes from immigrant and non-immigrant households at three schools in the Palos Verdes region of Southern California. Using a cross-sectional survey design with researcher-adapted items informed by the MCISCQ-Parent, SAS-2, and SPYSS instruments (Cronbach's  $\alpha = .81$ ,  $.79$ , and  $.85$ , respectively), data were collected from 143 eligible participants (74 immigrant households; 69 non-immigrant households) out of 146 total respondents. Immigrant-household athletes reported significantly higher perceived parental pressure ( $M = 3.01$ ,  $SD = 1.00$  vs.  $M = 2.26$ ,  $SD = 0.76$ ;  $t(141) \approx 5.07$ ,  $p < .001$ ,  $d \approx 0.84$ ) and performance anxiety ( $M = 3.36$ ,  $SD = 0.72$  vs.  $M = 2.59$ ,  $SD = 0.83$ ;  $t(141) \approx 5.90$ ,  $p < .001$ ,  $d \approx 0.99$ ) than non-immigrant peers. Both groups showed a strong positive correlation between parental pressure and anxiety (immigrant:  $r = .774$ ; non-immigrant:  $r = .766$ ), with no statistically detectable difference between them ( $z \approx 0.15$ ,  $p \approx .88$ ). A numerically larger emotional responsiveness–anxiety correlation was observed in the immigrant group ( $r = -.448$ ) than in the non-immigrant group ( $r = -.178$ ), though a direct Fisher's  $r$ -to- $z$  test of the difference fell short of significance ( $z \approx 1.78$ ,  $p \approx .075$ ). Findings are interpreted with attention to measurement-invariance assumptions and the adapted nature of the survey instrument; results are framed as preliminary and hypothesis-generating. Implications for culturally responsive approaches to athlete mental health in diverse school communities are discussed.

## INTRODUCTION

Adolescent mental health has emerged as a critical public health concern in the United States, where one in eight adolescents fulfills the conditions for a mental disorder, and in youth sports, performance anxiety hides behind “toughness” (Walton et al., 2024). While coaches and competitions can play immediate roles in impacting junior athletes' mental health, studies indicate that parental involvement can drastically

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heighten athletes' performance anxiety. Parental involvement in youth sports is recurrently seen as supportive, but the extent to which it "supports" is culturally constructed. In fact, cross-cultural studies indicate that warmth in parenting is a universally protective factor, whereas parenting styles and control can vary according to cultural norms (Lansford, 2021). Importantly, what constitutes "pressure" is not universally defined. Research on immigrant parents concluded that parental influence is interpreted as significant care and commitment. Likewise, in her research article, developmental psychologist Ruth Chao (1994) introduces the Chinese concept of training, *chiao shun*, in which high monitoring and authoritarian parenting styles express care and love rather than punishment (Chao, 1994). Therefore, when deeply culturally rooted parenting styles merge with the hypercompetitive world of high school athletics, parental involvement can influence athletes' mental health. Given that parental "pressure" is interpreted differently across cultural backgrounds, there remains a need to examine how parental pressure influences athletes' performance anxiety and whether this relationship varies between immigrant and non-immigrant parents. To investigate this correlation, this study examines the relationship between perceived parental pressure and performance anxiety among high school athletes in the Palos Verdes region of Southern California, with particular attention to whether this relationship differs between immigrant and non-immigrant households.

## LITERATURE REVIEW

Existing scholars in the field have established a connection between parents' involvement and its influence on a youth athlete's confidence, support, and perception of pressure. Across the literature, a broad consensus suggests that the manner and emotional tone of parental communication, rather than the sheer level of involvement, largely determine whether performance pressure is perceived as detrimental.

### Parental Pressure and Athlete Motivation

Scholars in the field suggest that the quality of parental involvement in youth sports is a stronger predictor of outcomes than its quantity. Researchers have drawn on psychological frameworks to examine the mechanisms behind these effects. Self-Determination Theory (SDT) focuses on whether parental behavior supports or undermines an athlete's sense of autonomy and competence, while Achievement Goal Theory (AGT) examines how parental emphasis on winning versus effort shapes a child's motivational orientation. By incorporating these frameworks, scholars aim to distinguish autonomy-supportive parenting—characterized by encouragement, emotional support, and effort-based feedback—from controlling, ego-involving climates that focus solely on outcome-based success. In a systematic literature review comprising 29 studies, Gao et al. found that autonomy-supportive parenting, characterized by positive feedback and moderate involvement, increased intrinsic motivation and enjoyment among youth athletes. Contrastingly, ego-oriented and controlling parenting – where personal success is defined by outperforming others – drastically predicted higher sports anxiety, burnout, and pressure among junior athletes (Gao et al., 2024). This distinction is further refined by O'Rourke et al. (2011), who bolster Gao et al.'s findings by arguing that parental pressure does not immediately correlate with athlete performance anxiety, but rather depends on the motivational climate in which it is embedded. O'Rourke et al. (2011) emphasized that high parental pressure in ego-involving climates was associated with increased sport

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anxiety. Pressure paired with a mastery-oriented environment, in which individuals focus on self-learning and improvement rather than on results, predicted lower levels of performance anxiety (O'Rourke et al., 2011). Together, O'Rourke and Gao conclude that pressure cannot be determined independently of the motivational climate. Instead, these scholars emphasize distinguishing between autonomy-supportive and ego-involving climates when interpreting the effects of parental pressure. Therefore, these findings suggest that "pressure" is not inherently harmful but rather depends on the motivational environment in which it is imposed.

### **Measurement and Athlete's Perspectives**

Previous scholars have used validated instruments to assess parental motivational climates and anxiety, thereby capturing the dynamics of parental involvement in youth sports. The 'Parent-Initiated Motivational Climate in Sports Competition Questionnaire (MCISCQ-Parent)' distinguishes between task-involving environments that support athletes' self-improvement and ego-involving environments where parents emphasize success over progress. For instance, Olivier Y. Rouquette's (2021) study incorporated the 'MCISCQ-Parent' to measure task-involving climates, which is associated with lower performance anxiety among junior athletes. This distinction is critical, as the 'MCISCQ-Parent' actively measures athletes' perceptions of parental behavior rather than parents' intended support.

Further, additional complementary instruments highlighted athlete perspectives. In a cross-sectional study of 80 Italian youth soccer players, Bonavolontà et al. created and distributed the 'Parent Involvement in Sport Questionnaire (PISQ).' Results revealed that youth athletes view excessive involvement and directive behavior as forms of performance pressure, regardless of the parent's intent. Importantly, players indicated a desire for parent involvement characterized by a greater understanding and supportive care (Bonavolontà et al., 2021). In conclusion, the instruments developed by Rouquette and Bonavolontà indicate that athletes' anxiety is not based on parents' intentions but rather on what athletes perceive those intentions to be. This distinction is particularly relevant when comparing immigrant and non-immigrant household athletes, as culturally rooted parenting behaviors may be perceived differently by athletes depending on their household background, suggesting that the same level of parental involvement could register as pressure for one group and support for another.

### **Cultural Interpretations of Parenting**

Scholars have determined that the meaning of parental "control" differs across societies. In her research study, psychologist Ruth Chao introduced the concept of training, obtained from the Chinese terms *guan* (to govern with care) and *chiao shun* (to morally teach). Her study, which utilized a cross-sectional observation on 50 immigrant mothers and 50 European-American mothers in the Los Angeles area, identified that Chinese parents who highly monitor and control their children intend to signify moral education and parental care rather than oppression (Chao, 1994). Similarly, researcher Jennifer E. Lansford argued that while parental discipline and control vary across cultures, emotional warmth is universally linked to healthy development (Lansford, 2021). Empirical support for this distinction is evident in Klein et al's population-based analysis on the "Gutenberg Health Study" (2020), which concluded that first-generation immigrants recalled their parents as being both controlling and warm, compared with non-immigrants, suggesting that control can coexist with affection, a dynamic that

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Western frameworks often misclassify as purely authoritarian due to their emphasis on control (Klein et al., 2020). Taken together, these results suggest that immigrant parenting styles, often characterized as “pressure” in Western cultures reflects values of cultural protection and responsibility. Although current research indicates that immigrant parents can be both strict and caring at the same time, most scholarly studies do not mention how immigrant cultural style affects how athletes feel pressure in competitive sports. Critically, these cultural frameworks collectively raise the question of whether Western-validated instruments like the MCISCQ-Parent can accurately capture parenting behaviors that are culturally encoded as care rather than control—a methodological tension this study directly confronts by interpreting group differences in perceived pressure scores with this cultural ambiguity in mind.

### **Emotional Responsiveness and Athlete Mental Health**

Beyond the motivational climate and measurement of parental pressure, scholars have also examined the role of parental emotional responsiveness as a relational mechanism that may independently shape athletes’ psychological outcomes. In a semi-longitudinal survey of 205 U.S. participants, Olivier Y. Rouquette et al. (2021) examined whether perceived parental emotional responsiveness predicted subsequent changes in athletes’ psychological outcomes. The study found that athletes who perceived their parents as emotionally responsive had higher self-efficacy and lower levels of sport anxiety three months later, suggesting that parental emotional responsiveness may buffer against evaluative stress by reinforcing athletes’ confidence and perceived support (Rouquette et al., 2021). This design highlights the methodological emphasis on distinguishing competitive stress from sustained performance anxiety, a distinction crucial to understanding athlete mental health.

From a parental perspective, Professor Katherine Tamminen used a quantitative-survey based design to develop and implement the *Stressors Among Parents in Youth Sports Survey* (SPYSS), which measures sources of parental stress related to expectations, communication methods, and performance outcomes. Tamminen et al. (2024) found that parents themselves experience substantial stress in balancing parental emotional support with performance expectations in the competitive youth sports environment. Parental stress can alter parental emotional regulation and communication patterns, increasing the likelihood that parental feedback will come across as criticism rather than support (Tamminen et al., 2024). Together, Tamminen et al. and Rouquette et al. highlight that athletes may perceive parental involvement as pressure, which can heighten performance anxiety. These studies conclude that parental emotional tone—such as responsiveness, communication, and warmth—functions as a key mechanism linking the relationship between anxiety and pressure. Despite this function, only a few studies have examined whether culturally rooted interpretations of control affect athletes’ experiences of parental pressure in competitive environments.

### **Gap in the Field of Knowledge**

Although pre-existing studies come to the consensus that controlling parental behaviors are associated with heightening youth athletes’ anxiety, the majority of the studies have been conducted within Western frameworks and tend to take a universalist approach in assuming that parental coercion will work similarly across all cultures. Therefore, the measuring instruments used by these researchers fail to account for the varying perceptions of control and care across cultures, potentially leading to the

misclassification of culturally normative parenting as universally detrimental (Chao, 1994; Klein et al., 2020). Moreover, a review of studies employing the MCISCQ-Parent and SAS-2 instruments mostly focuses on team sport athletes; no published studies focused exclusively on individual-sport athletes, suggesting that the parent-athlete dynamic in individual sports, where performance outcomes are attributed solely to the athlete rather than shared across a team, has not been examined within the parental pressure literature. It remains unclear whether perceived parental pressure universally correlates with youth athletes' performance pressure or whether its effects differ across cultures depending on how families define "pressure." This paper aims to address these gaps by examining the extent to which parental pressure influences performance anxiety among high school athletes and how this relationship differs between athletes from immigrant and non-immigrant households across three high schools in the Palos Verdes region. Based on these cultural and contextual factors, the study hypothesizes that higher perceived parental pressure would correlate with higher levels of athlete performance anxiety, and this relationship would be stronger for athletes with immigrant parents than for athletes with non-immigrant parents.

## **METHODOLOGY**

The study used a quantitative, cross-sectional survey design to assess the relationship between perceived parental pressure and athletes' performance anxiety among high school athletes, with immigrant vs. non-immigrant family status as a comparison group. The methodological design was inspired by O'Rourke et al. (2011), who paired the 'MCISCQ-Parent' and 'Sports Anxiety Scale-2' (SAS-2) instruments within their study. Furthermore, my survey design was influenced by Tamminen et al.'s (2024) *Stressors Among Parents in Youth Sports Survey* (SPYSS). The survey items measuring perceived parental pressure were inspired by the MCISCQ-Parent, and items measuring performance anxiety were inspired by the somatic-anxiety items of the SAS-2, but the six items per construct reproduced in Appendix A are researcher-adapted items written for this study rather than the original published item sets. They draw conceptually on the MCISCQ-Parent's task-involving/ego-involving framework and the SAS-2's somatic-anxiety focus, and on Tamminen et al.'s (2024) SPYSS, but they have not themselves been validated, and the inherited reliability and validity evidence for the MCISCQ-Parent and SAS-2 cannot be claimed for the items actually administered here. To partially address this gap, Cronbach's alpha was calculated for each six-item composite on this sample: perceived parental pressure ( $\alpha = .81$ ), performance anxiety ( $\alpha = .79$ ), and parental emotional responsiveness ( $\alpha = .85$ ), all of which indicate acceptable to good internal consistency for the items as administered. A further conceptual note is warranted: because the pressure composite collapses items that span both task-involving and ego-involving content, it is better understood as a general index of perceived parental emphasis on outcomes than as a direct measure of "pressure" in the sense used by the original MCISCQ-Parent. These studies guided my decision to prioritize athletes' self-reports over parents' behavioral intentions. A survey design was selected over qualitative methods, such as interviews, because it allowed standardized measurement across a large, culturally diverse sample, enabling meaningful group comparisons between immigrant and non-immigrant households.

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Among all quantitative methods, a cross-sectional survey using researcher-adapted Likert-scale items inspired by validated psychological instruments was deemed the most appropriate approach for this study. Alternative quantitative designs were considered and rejected. A natural experiment design was rejected because there are no schools in the Palos Verdes region with differing immigrant population densities that can be compared while controlling for socioeconomic and sports program characteristics. There is no database that would incorporate measures comparable to the adapted pressure and anxiety composites and immigration status in sports activities. First, the constructs under investigation, perceived parental pressure and performance anxiety, are inherently perceptual. Secondly, given the objective of determining whether the pressure-anxiety relationship differs across immigrant and non-immigrant household contexts, a larger and more diverse sample was required. Thirdly, using carefully designed Likert-scale items ensures consistent measurement across cultural groups; however, cultural differences in how questions are interpreted may still influence responses. Importantly, this study's research question asks 'to what extent' parental pressure influences performance anxiety, which requires measuring the strength of the relationship between variables, for which a quantitative, correlational methodology was most appropriate.

To identify a region for my research, I chose three high schools in the Palos Verdes area: Chadwick School, Palos Verdes Peninsula High School, and Palos Verdes High School. The Palos Verdes region was selected as a theoretically motivated research site. Its documented demographic composition, approximately 49.4% white residents and 26.4% Asian residents, creates a natural comparison group (DATA USA, 2023). While the three schools differ in institutional type—one private and two public – they are all located within the same geographic region of Southern California and draw from overlapping residential communities, providing a degree of demographic comparability. To ensure a diverse range of ethnicities in my data, I collected 146 survey respondents. To determine the appropriate survey sample size, I calculated the estimated proportion of varsity athletes across all schools. At Chadwick, 259 of 360 participate in varsity sports, approximately 71%. Applying this portion to Palos Verdes High School (1,419 students) and Palos Verdes Peninsula High School (2,175 students) yields an estimated total varsity athlete population of 2,811 athletes. Using a 95% confidence level and an 8% margin of error, the required sample size is 143 participants. It is important to note that this calculation is a precision estimate appropriate for estimating a proportion (the share of varsity athletes) in a finite population—it is not a power analysis for detecting a correlation difference, which is this study's actual comparative aim. A power analysis for detecting a difference between correlations of the magnitude observed here with 80% power at  $\alpha = .05$  would require roughly 230 participants per group, well beyond the 74 and 69 obtained. The study should therefore be understood as underpowered for its central comparative claims. All participants must be current athletes at one of the three high schools.

My recruitment process involved distributing the survey via email to student-athletes, mainly team captains and athletes. Within the structure of my survey, the independent variable is perceived parental pressure, measured using researcher-adapted items inspired by the MCISCQ-Parent and PISQ. The dependent variable is performance anxiety, measured using researcher-adapted items inspired by the somatic subscale of the SAS-2. Athletes were grouped by their immigrant household status, measured through a demographic screening section at the beginning of my questionnaire. The controllable variables

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were sport type, training hours, and grade level.

Prior to data collection, the questionnaire began with informed consent by requiring a parent's signature and approval for their child to participate in the study, in accordance with ethical research guidelines concerning minors. Immigrant household status was determined through a demographic screening question asking respondents which best described their family background, with answer choices indicating whether at least one parent was born outside the United States, both parents were born in the United States, or a prefer-not-to-answer option. The survey included a demographic screening section and an equal number of questions (6 per section) on parental pressure, athlete performance anxiety, and emotional support/responsiveness. (See full Survey Instrument, explicitly labeled as researcher-adapted, in Appendix A.)

Upon data collection, all survey responses were exported directly from Google Forms to Google Sheets, where each row represented a respondent, and each column represented a survey item. At this point, all survey responses were anonymized and held on a locked document. Prior to analysis, two items were reverse-coded: 'My parent(s) encourage me to focus on effort and learning rather than results' and 'I feel calm and relaxed during competition'—as these items were phrased in the opposite direction of the construct being measured. To reverse-code each item, individual responses were subtracted from 6, ensuring that higher composite scores consistently reflected higher perceived parental pressure and performance anxiety. Composite scores for each subscale were then calculated as the mean of the relevant per-item, per-responder values.

Responses were then filtered by household immigration status using the AVERAGEIF and STDEV functions to calculate group means and standard deviations of perceived parental pressure, performance anxiety, and emotional responsiveness across immigrant and non-immigrant groups. Pearson's  $r$  correlation coefficients were calculated using the CORREL function, applied separately to each group, to evaluate whether the strength of the relationship between parental pressure and performance anxiety differed across household backgrounds. To formally test whether two independent Pearson correlations differed from one another, Fisher's  $r$ -to- $z$  transformation was applied; to test group mean differences, independent-samples  $t$ -tests with Cohen's  $d$  effect sizes were computed. A significance threshold of  $p < .05$  was applied to evaluate all correlations and group comparisons. For sample sizes of  $n = 74$  and  $n = 69$ , a Pearson's  $r$  of approximately 0.23 (immigrant group) or 0.24 (non-immigrant group) is required to reach statistical significance at  $p < .05$ . Most correlations reported in this study exceeded this threshold; however, as detailed in the Results, the non-immigrant emotional-responsiveness–anxiety correlation ( $r = -.178$ ) falls below it and is not statistically significant.

## RESULTS

The study analyzed data from 143 participants deemed eligible based on the inclusion criteria out of 146 total responses collected; the remaining three respondents selected "prefer not to answer" on the household-status item and were excluded from all comparative analyses, leaving 74 immigrant-household

and 69 non-immigrant-household athletes ( $74 + 69 + 3 = 146$ ). Relationships between perceived parental pressure, performance anxiety, and emotional responsiveness among athletes from immigrant parents ( $n = 74$ ) and non-immigrant parents ( $n = 69$ ) families are presented. See Figure 1 and Table 1 for a complete summary of group means, standard deviations, and correlation coefficients.

**Table 1**

*Descriptive Statistics and Pearson Correlations by Household Immigrant Status*

| Subscale                                                                                                        | Immigrant M | Immigrant SD | Non-Immigrant M | Non-Immigrant SD |
|-----------------------------------------------------------------------------------------------------------------|-------------|--------------|-----------------|------------------|
| Perceived Parental Pressure                                                                                     | 3.01        | 1.00         | 2.26            | 0.76             |
| Performance Anxiety                                                                                             | 3.36        | 0.72         | 2.59            | 0.83             |
| Parental Emotional Responsiveness                                                                               | 3.40        | 1.14         | 3.92            | 1.11             |
| Pressure → Anxiety Correlation (r)                                                                              | .774        | —            | .766            | —                |
| Responsiveness → Anxiety Correlation (r)                                                                        | −0.448      | —            | −0.178          | —                |
| <i>Note: non-immigrant <math>r = -.178</math> is not statistically significant (<math>p \approx .14</math>)</i> |             |              |                 |                  |

Note. All subscales were scored on a 1–5 Likert scale. Higher scores indicate greater perceived parental pressure, performance anxiety, or emotional responsiveness. Three participants who selected “prefer not to answer” were excluded from group analyses. Standard deviations for each subscale are reported in Table 1 above.

### Parental Pressure

Immigrants reported significantly higher mean scores on the parental pressure scale ( $M = 3.01$ ,  $SD = 1.00$ ) compared to non-immigrant household athletes ( $M = 2.26$ ,  $SD = 0.76$ ), as measured by the researcher-adapted parental-pressure items (see Methods and Appendix A). An independent-samples t-test confirmed that this difference was statistically significant,  $t(141) \approx 5.07$ ,  $p < .001$ ,  $d \approx 0.84$  (a large effect by conventional standards). This comparison presupposes that the pressure items mean the same thing, on the same scale, to athletes in both groups (scalar measurement invariance), an assumption this paper’s cultural framing calls into question and treats as an open and untested question rather than a given. Greater variability in the immigrant group ( $SD = 1.00$ ) relative to the non-immigrant group ( $SD = 0.76$ ) indicates that experiences of parental pressure were more polarized among immigrant household athletes.

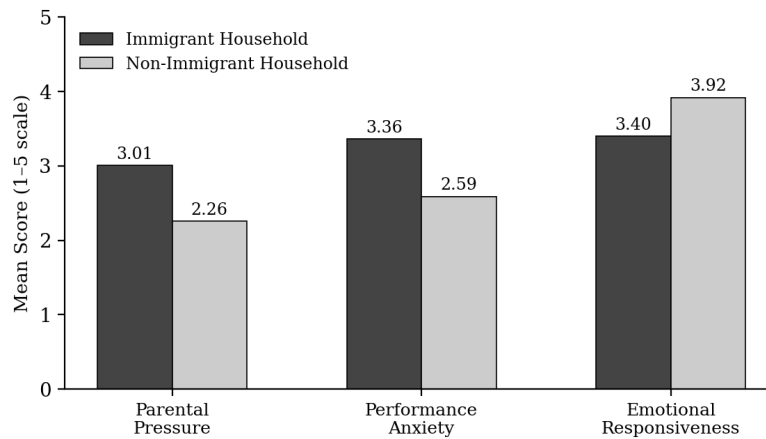
### Performance Anxiety

In accordance with the results concerning perceived parental pressure, immigrant participants reported higher mean performance anxiety scores ( $M = 3.36$ ,  $SD = 0.72$ ) compared to non-immigrants ( $M = 2.59$ ,  $SD = 0.83$ ). An independent-samples t-test likewise confirmed this difference,  $t(141) \approx 5.90$ ,  $p < .001$ ,  $d \approx 0.99$  (a large effect); the same measurement-invariance caveat noted above applies to this comparison. See Figure 1.

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**Figure 1.** Mean Scores for Perceived Parental Pressure, Performance Anxiety, and Emotional Responsiveness by Household Immigration Status

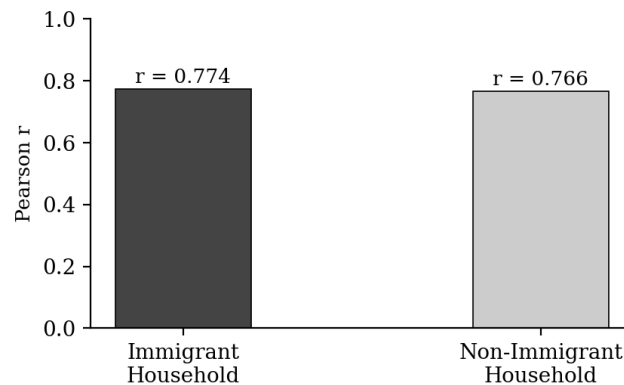


Note. Error bars not shown; standard deviations are reported in Table 1. All scores measured on a 1–5 Likert scale.

### Parental Pressure and Anxiety Correlation

Immigrant and non-immigrant household athletes showed a strong positive correlation between perceived parental pressure and performance anxiety (immigrant:  $r = .774$ ,  $p < .001$ ; non-immigrant:  $r = .766$ ,  $p < .001$ ). A Fisher's  $r$ -to- $z$  test of the difference between these two independent correlations yielded  $z \approx 0.15$ ,  $p \approx .88$ , indicating no statistically detectable difference between them. Despite the significant difference in average pressure scores between the two groups, the strength of the pressure-anxiety relationship was similar across household groups. It is important to be precise about what this does and does not show: the absence of a detected difference is not proof of equivalence. Demonstrating true equivalence would require a dedicated equivalence-testing approach (e.g., two one-sided tests against a pre-specified smallest difference of interest), which was not conducted here. The most defensible interpretation is that this study did not detect a difference between the immigrant and non-immigrant pressure-anxiety correlations, in a sample sized to detect only large differences. This finding is broadly consistent with O'Rourke et al.'s (2011) observation that parental pressure predicts sport anxiety across the populations they studied. (See Figure 2.)

**Figure 2.** Pearson Correlation Coefficients Between Perceived Parental Pressure and Performance Anxiety by Household Immigration Status



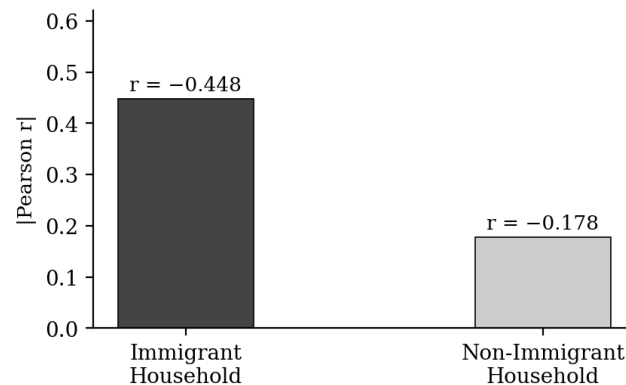
Note. Correlation coefficients calculated using Pearson's  $r$ . Both groups demonstrate a strong positive association between perceived parental pressure and performance anxiety. Fisher's  $r$ -to- $z$  comparison:  $z \approx 0.15$ ,  $p \approx .88$  (difference not statistically significant).

### **Emotional Responsiveness and the Correlation with Anxiety**

Non-immigrant household athletes reported higher mean emotional responsiveness scores ( $M = 3.92$ ,  $SD = 1.11$ ) than immigrant household athletes ( $M = 3.40$ ,  $SD = 1.14$ ), subject to the measurement-invariance caveat noted above. The most notable result emerged when evaluating correlations between emotional responsiveness and performance anxiety. The correlation among immigrant athletes was moderate and negative ( $r = -.448$ ,  $p < .001$ ), implying that higher perceived parental emotional availability was associated with lower anxiety. Among non-immigrants, the correlation was weaker ( $r = -.178$ ) and does not reach statistical significance: with  $n = 69$ , an  $r$  of approximately 0.24 is required for  $p < .05$ , and a direct calculation places this correlation at  $t \approx 1.48$ ,  $df = 67$ , two-tailed  $p \approx .14$ . A Fisher's  $r$ -to- $z$  test of the difference between  $r = -.448$  ( $n = 74$ ) and  $r = -.178$  ( $n = 69$ ) yields  $z \approx 1.78$ , two-tailed  $p \approx .075$  – a difference that does not reach the conventional .05 threshold, and a ratio closer to roughly 2.5-fold than “nearly tripling.” The most accurate description is that the responsiveness-anxiety correlation appeared stronger among immigrant-household athletes than among non-immigrant-household athletes, but this difference was not statistically significant in a sample sized to detect only large effects. This suggestive, non-significant trend is worth describing and pursuing in a larger, adequately powered replication. See Figure 3.

**Figure 3.** *Pearson Correlation Coefficients Between Parental Emotional Responsiveness and Performance Anxiety by Household Immigration Status*

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Note. Pearson's  $r$  correlation coefficient was used for the analysis. The figure shows the absolute magnitude of the correlation. A negative association between responsiveness and anxiety was observed in both groups; the association appeared numerically larger among immigrant household athletes ( $r = -.448$ ) than among non-immigrant household athletes ( $r = -.178$ ). Fisher's  $r$ -to- $z$  test:  $z \approx 1.78$ ,  $p \approx .075$  (difference not statistically significant at the .05 level); the non-immigrant correlation alone was also not statistically significant ( $p \approx .14$ ).

## DISCUSSION

The findings of this study partially support the initial hypothesis that immigrant household athletes would report higher levels of perceived parental pressure and performance anxiety compared to athletes from non-immigrant households. Immigrant athletes recorded higher mean scores on both the parental pressure subscale ( $M = 3.01$  vs.  $M = 2.26$ ,  $t(141) \approx 5.07$ ,  $p < .001$ ,  $d \approx 0.84$ ) and the performance anxiety subscale ( $M = 3.36$  vs.  $M = 2.59$ ,  $t(141) \approx 5.90$ ,  $p < .001$ ,  $d \approx 0.99$ ). Before drawing substantive conclusions from these mean differences, however, it is worth foregrounding a question this paper's own methodological insight raises: if immigrant- and non-immigrant-household athletes do not necessarily interpret "pressure" items through the same cultural frame, then a higher mean score on a Western-framed pressure measure may not mean "more pressure" in a directly comparable sense across groups. Comparing means across groups assumes scalar measurement invariance, and this assumption is precisely what this paper's cultural framing calls into question. This aligns with Klein et al.'s (2020) finding that first-generation immigrants recalled their parents as more controlling and involved than non-immigrants. The results also align with Chao's (1994) cultural framing of *chiao shun*, in which authoritarian parenting can be seen as caring, morally invested behavior. That said, the demographic screen used here records only whether at least one parent was born outside the United States, capturing neither national origin, generation, language, nor any marker that would link a given respondent to specifically Chinese cultural concepts such as *guan* or *chiao shun*. The *chiao shun* framing is best read as one illustrative interpretive lens rather than as the demonstrated mechanism operating in this particular sample. Findings suggest that immigrant athletes in this sample may experience higher self-reported levels of parental involvement, which their survey responses reflect as pressure regardless of its intended meaning.

However, the second hypothesis – that the association between pressure and anxiety would be stronger among immigrants than non-immigrants – was not supported by a direct statistical test (Fisher's  $r$ -to- $z$ ,  $z \approx 0.15$ ,  $p \approx .88$ ). Correlations between parental pressure and performance anxiety were similar across immigrant and non-immigrant participants (immigrant  $r = .774$ ; non-immigrant  $r = .766$ ), and a direct test found no significant difference between them. "We found no significant difference" is not the same claim as "we demonstrated equivalence," and one should be cautious in interpreting either the raw similarity or the non-significant test result as proof of a universal psychological mechanism. The pressure measure was inspired by a Western sport-psychology framework, and it is possible that the items embed assumptions about the meaning of "pressure." If immigrant household athletes interpreted items according to their own culture-specific definitions – for instance, *chiao shun*, when active parental involvement indicates care – then both groups could have been influenced by the Western perceptions of pressure included in the survey rather than by the same experiences. Measurement equivalence does not guarantee psychological equivalence. The high degree of correlation may reflect shared responses to a Western-framed instrument rather than a truly universal pressure-anxiety mechanism, a distinction this cross-sectional design cannot resolve. This non-significant comparison is best read as the study failing to detect a difference – in a sample powered only to detect large differences – rather than as confirmation of universality. The data are consistent with either a genuinely shared mechanism or a shared response to a culturally specific instrument.

The most novel – though not statistically significant on direct testing – pattern in this study concerns the relative size of the emotional-responsiveness/anxiety correlations. The negative correlation was numerically larger in the immigrant group ( $r = -.448$ , statistically significant) than in the non-immigrant group ( $r = -.178$ , not statistically significant), and a Fisher's  $r$ -to- $z$  test of the difference yielded  $z \approx 1.78$ ,  $p \approx .075$  – a suggestive trend that falls short of the conventional .05 threshold. Framed honestly, this is a hypothesis-generating observation rather than an established result. It is consistent with Rouquette et al.'s (2021) general finding that perceived parental responsiveness predicts lower sport anxiety, and it raises the possibility that this association could be stronger in higher-pressure household contexts. A larger, adequately powered replication – ideally combined with a moderated-regression design that can test buffering directly – would be needed to determine whether this trend is real.

Any engagement with Self-Determination Theory (SDT) here should be framed cautiously. SDT treats relatedness – of which parental emotional responsiveness is one expression – as a universal psychological need, but it does not claim that the magnitude of responsiveness effects must be culturally invariant. The pattern observed here (a numerically larger, though not statistically significant, responsiveness-anxiety correlation among immigrant-household athletes) is, at most, a hint that culture could moderate the strength of this association. A replicated finding of this kind would refine rather than refute SDT-based accounts.

The findings come with important limitations. Data were collected through self-reported surveys, which can be biased, particularly when assessing topics such as parental pressure and performance anxiety. The cross-sectional design involves several limitations. First, parental pressure and performance anxiety were measured only once, meaning that the numerically larger responsiveness-anxiety correlation observed

among immigrant athletes—itself not statistically significant on direct testing—cannot be attributed with confidence to any stable cultural characteristic. Second, the immigrant household category captures neither national origin, generation, language, nor socioeconomic position, any of which may meaningfully shape parental pressure and emotional responsiveness. Consequently, the correlations for the immigrant group may differ when separated by generational status or other unmeasured markers of cultural background. Third, the study is underpowered for its central comparative claims (see Methods), and its findings should be treated as preliminary rather than definitive. Finally, if immigrant household athletes interpreted pressure items through culturally specific frameworks such as *chiao shun*, the similar correlations across groups would be consistent with both groups responding similarly to a survey built on Western assumptions about pressure, rather than parental pressure actually functioning the same way across cultures—a distinction this design cannot resolve.

## CONCLUSION AND FUTURE DIRECTIONS

This paper aimed to evaluate the extent to which parental pressure is associated with performance anxiety in high school athletes in the Palos Verdes area. Prior to this study, no research directly examined how parental pressure relates to performance anxiety among high school athletes across immigrant and non-immigrant household contexts, nor whether emotional responsiveness correlates with anxiety similarly in both groups. The findings contribute a culturally situated, preliminary, hypothesis-generating understanding of the pressure-anxiety relationship in youth sports. Immigrant-household athletes reported higher baseline levels of both parental pressure and performance anxiety than athletes from non-immigrant households (large effects,  $d_s \approx 0.84\text{--}0.99$ ), yet the strength of the pressure-to-anxiety relationship was similar across groups, with no statistically significant difference detected on direct testing ( $z \approx 0.15$ ,  $p \approx .88$ ). Notably, the responsiveness-anxiety correlation was numerically stronger for immigrant household athletes than for non-immigrant household athletes, though this difference ( $z \approx 1.78$ ,  $p \approx .075$ ) likewise fell short of statistical significance and should be read as a suggestive trend rather than an established result. This preliminary work is best understood as laying groundwork for how sport psychologists and school counselors approach athlete mental health in diverse communities, pending replication in a larger, adequately powered sample.

Future research should build on these findings in several ways. A longitudinal study design that tracks parental pressure and performance anxiety across an entire competitive season would allow researchers to observe how these variables fluctuate over time and whether emotional responsiveness has a sustained association with lower anxiety. A mixed-methods approach, including athlete focus groups or interviews, could help researchers test whether immigrant and non-immigrant athletes use different terminology to describe the same parenting characteristics. Future studies should also distinguish between first- and second-generation immigrant athletes, and should collect national-origin and generational data so that culturally specific frameworks like *chiao shun* can be connected to the respondents they are meant to describe, rather than applied to a broadly defined “immigrant household” category. Furthermore, while this study included athletes from individual sports such as golf and tennis alongside team sport athletes, future research should examine whether the pressure-anxiety relationship differs between individual and

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team sport athletes, as the parent-athlete dynamic in individual sports is often more direct and intense. Finally, a properly powered, interaction-based (moderated regression) replication—ideally with a sample close to the roughly 230 participants per group that a power analysis suggests—would put both of this study’s central comparative questions on solid statistical footing.

The results of this study are particularly relevant to coaches, athletic directors, school counselors, and parents who interact with high school athletes in culturally diverse communities. Immigrant-household athletes may be navigating higher levels of parental pressure and performance anxiety than their non-immigrant peers, even within the same school system and athletic environment, though the comparative correlational claims that initially anchored this study’s contribution did not hold up to direct statistical testing and should be treated as hypotheses for future research. Future research incorporating SDT theories should treat culture as a variable worth modeling explicitly—through interaction terms in moderated regression—so that any true cultural patterning of the responsiveness-anxiety association can be detected with appropriate statistical power. As youth sports continue to gain social significance, this study emphasizes the importance of culturally responsive approaches to athlete mental health and parent education in high school athletic programs.

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## APPENDIX A

*Researcher-Adapted Parental Pressure and Performance Anxiety Survey* (items inspired by, but not identical to, the MCISCQ-Parent, PISQ, and SAS-2; see Methods for full disclosure of this adaptation)

### Introductory Statement presented to participants:

Please keep in mind that this survey is being conducted using Google Forms, a platform that is not affiliated with Chadwick School and is subject to its own privacy and security standards. Participation in this study poses no more risk than regular internet use. Your confidentiality will be maintained to the extent permitted by the technology being used.

If you choose to complete this survey, please identify as a current high school athlete attending Chadwick School, Palos Verdes Peninsula High School, or Palos Verdes High School.

**Student Researcher:** Jin Chung

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**Title of Project:** *Parental Pressure and Performance Anxiety Among High School Athletes: A Comparative Study of Immigrant and Non-Immigrant Households*

You are invited to participate voluntarily in an AP Research study examining how high school athletes perceive parental involvement and how these perceptions relate to performance anxiety. This study also explores whether athletes from immigrant and non-immigrant households experience parental pressure differently. If you choose to participate, you will be asked to complete an anonymous online survey that will take approximately 10–15 minutes. No identifying information will be collected. There are minimal risks associated with participation. You may withdraw from the survey at any time without penalty. By continuing with this survey, you indicate that you understand the purpose of the study and consent to participate.

**Section 1: Consent and Background**

1. Are you a high school student-athlete at Chadwick School? (Yes / No)
2. Are you a high school student-athlete at Palos Verdes Peninsula High School? (Yes / No)
3. Are you a high school student-athlete at Palos Verdes High School? (Yes / No)

*Introductory statement presented to participants before proceeding:*

This study is being conducted by Jin Chung, a student researcher at Chadwick School, as part of the AP Research course. Participation is completely voluntary and anonymous; no names, email addresses, or identifying information will be collected. The survey takes approximately 10–15 minutes to complete and involves minimal risk. Students may stop at any time or skip any question without consequence.

The survey includes one demographic question asking whether a parent or guardian was born outside the United States. It does not ask about legal status and includes a “Prefer not to answer” option.

4. To be completed by parent – Parental Consent Letter: ☐ I have read the information above. By selecting “check” and allowing my child to proceed, I provide informed parental consent for my child to participate in this anonymous research study.
5. I am under 18: (Yes / No / Prefer not to say)
6. I give my assent to participate in this research study. Participation is completely voluntary. (Yes / No)

**Section 2: Demographics**

*Introductory statement presented to participants before proceeding:*

Thank you for taking the time to participate in my survey on parental pressure and performance anxiety among high school athletes. Your responses are completely anonymous and will be used solely for a research paper for my AP Research class.

7. What is your sports level? (Varsity / JV / Other)
8. Which best describes your parent(s)/guardian(s)? This question is about general family background only. It does NOT ask about citizenship or legal status.

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- At least one of my parents/guardians were born outside of the United States
- Both of my parents/guardians were born in the United States
- Prefer not to answer

### **Section 3: Perceived Parental Pressure & Motivational Climate**

*All items rated on a 5-point Likert scale (1 = Strongly Disagree, 5 = Strongly Agree)*

9. My parent(s) emphasize winning over personal improvement.
10. My parent(s) encourage me to focus on effort and learning rather than results.
11. My parent(s) become upset when I perform poorly.
12. My parent(s) support me regardless of my performance.
13. My parent(s) compare my performance to other athletes.
14. I feel pressure from my parent(s) to meet high performance expectations.

### **Section 4: Performance Anxiety**

*All items rated on a 5-point Likert scale (1 = Strongly Disagree, 5 = Strongly Agree)*

15. I feel nervous before competitions.
16. I worry about disappointing my parent(s) when I compete.
17. I think about making mistakes while I am competing.
18. I feel calm and relaxed during competition.
19. I feel pressure to perform well because of my parent(s).
20. I feel tense or shaky during competitions.

### **Section 5: Emotional Responsiveness**

*All items rated on a 5-point Likert scale (1 = Strongly Disagree, 5 = Strongly Agree)*

21. My parent(s) listen to me when I talk about my sport experiences.
22. I feel emotionally supported by my parent(s) in my sport.
23. My parent(s) understand how competition affects my emotions.
24. My parent(s) are supportive of my emotions, even when I am disappointed with my performance.
25. My parent(s) respond calmly when I am stressed or upset about my sport.
26. I feel comfortable expressing my worries or frustrations about my sport to my parent(s).

### **Debriefing Statement presented to participants upon survey completion:**

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Thank you for taking the time to participate in this study. This research examines how high school student-athletes perceive parental involvement and how those perceptions may relate to experiences of performance anxiety in sports. The study also explores whether these experiences differ across diverse family backgrounds. Participation in this study was voluntary, and your responses are anonymous. If you would like to speak with someone about any concerns raised during this survey, you are encouraged to reach out to a trusted adult, coach, school counselor, or a licensed mental health professional. If you would like to speak to the researcher about the project, please contact the researcher through Chadwick School.