



Student altruism as a transversal educational value: a Rasch model analysis across cultural regions in Bali

El altruismo estudiantil como valor educativo transversal: un análisis mediante el modelo Rasch en distintas regiones culturales de Bali

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Abstract

Introduction: Altruism represents a core prosocial value that supports students' social and moral development and contributes to harmonious educational environments. Within contemporary educational discourse, altruism can be conceptually understood as a transversal value that is transferable across learning domains, including value-oriented learning in Physical Education.

Objective: This study aimed to examine patterns and levels of student altruism across cultural regions in Bali and to explore how cultural contexts influence the measurement of altruistic behavior, while positioning altruism as a transversal value relevant to Physical Education.

Methodology: A quantitative exploratory cross-sectional design was employed involving 525 students from eight cultural regions in Bali. Participants were selected using stratified random sampling to ensure proportional regional representation. Data were analyzed using the Rasch Model to evaluate item fit, reliability, scale unidimensionality, and differential item functioning across cultural groups.

Results: The findings indicated that students' altruism levels were generally moderate to high, with meaningful variations across cultural regions. The measurement model demonstrated strong reliability and supported a unidimensional structure. Several items exhibited differential item functioning, suggesting that cultural context influenced students' responses to specific expressions of altruism.

Conclusions: The study concludes that student altruism is a relatively stable yet culturally contextualized construct. Conceptualizing altruism as a transversal educational value provides practical implications for character and value education, particularly for the integration of prosocial learning objectives within Physical Education curricula and pedagogical practices.

Keywords

Student altruism; prosocial behavior; transversal value; Rasch model; cultural context; Physical Education.

Resumen

Introducción: El altruismo representa un valor prosocial fundamental que favorece el desarrollo social y moral del alumnado y contribuye a la construcción de entornos educativos armónicos. En el discurso educativo contemporáneo, el altruismo puede comprenderse conceptualmente como un valor transversal transferible a distintos ámbitos de aprendizaje, incluida la Educación Física orientada a la formación en valores.

Objetivo: El objetivo de este estudio fue examinar los patrones y niveles de altruismo estudiantil en distintas regiones culturales de Bali, así como analizar la influencia del contexto cultural en la medición del comportamiento altruista, posicionando el altruismo como un valor transversal relevante para la Educación Física.

Metodología: Se empleó un diseño cuantitativo exploratorio de tipo transversal, con la participación de 525 estudiantes procedentes de ocho regiones culturales de Bali, seleccionados mediante muestreo aleatorio estratificado. Los datos se analizaron utilizando el modelo Rasch para evaluar el ajuste de los ítems, la fiabilidad, la unidimensionalidad de la escala y el funcionamiento diferencial de los ítems entre regiones culturales.

Resultados: Los resultados mostraron que los niveles de altruismo del alumnado fueron, en general, de moderados a altos, con variaciones significativas entre las regiones culturales. El modelo de medición presentó una alta fiabilidad y respaldó una estructura unidimensional. Asimismo, varios ítems evidenciaron funcionamiento diferencial, lo que indicó la influencia del contexto cultural en determinadas expresiones del altruismo.

Conclusiones: El estudio concluye que el altruismo estudiantil es un constructo relativamente estable, aunque contextualizado culturalmente. Concebir el altruismo como un valor educativo transversal aporta implicaciones prácticas relevantes para la educación en valores, especialmente para la integración de objetivos prosociales en los currículos y prácticas pedagógicas de la Educación Física.

Palabras clave

Altruismo estudiantil; conducta prosocial; valor transversal; modelo Rasch; contexto cultural; Educación Física.



Introduction

Altruism occupies a central position in students' social and moral development as a core prosocial value that is progressively internalized during adolescence. This developmental phase represents a critical period in which tendencies toward helping others selflessly become more stable, shaped by repeated social interactions and the value systems embedded in students' immediate environments. Within educational contexts, altruistic behavior is widely recognized as a key component of prosocial character formation that supports social harmony and responsible citizenship. Previous research has consistently shown that altruism is influenced not only by individual dispositions but also by social and cultural frameworks that regulate norms, expectations, and moral obligations within a community (Carlo et al., 2015; Eisenberg et al., 2013). As stated by Killen et al., (2015), children's moral and prosocial development is closely linked to social interactions framed by local cultural norms, positioning cultural experience as a key mediator in the formation of altruistic behavior. This perspective highlights that altruism is inherently contextual and closely connected to the local wisdom embedded within a society.

In contemporary educational discourse, the cultivation of prosocial values has increasingly been linked to transversal learning objectives. Education is no longer viewed solely as a means of cognitive development, but also as a space for fostering social and moral competencies that are transferable across learning domains. Within this framework, altruism may be conceptualized as a transversal educational value that is relevant to various instructional contexts, including Physical Education. Learning environments characterized by social interaction, cooperation, and shared experiences such as those commonly found in Physical Education provide opportunities for the enactment and reinforcement of prosocial values. Although the present study does not empirically examine Physical Education practices, positioning altruism as a transversal value allows the findings to be meaningfully interpreted in relation to value-oriented learning and character education, including Physical Education contexts.

In the Balinese context, local wisdom transmitted across generations through the principle of Tri Hita Karana plays a central role in shaping how altruism is understood and enacted. This cultural philosophy emphasizes harmony among relationships with God, fellow humans, and the natural environment, thereby encouraging the prioritization of collective interests over individual concerns. As noted by Fox, (2015), Balinese social structures such as the banjar system and the desa pakraman foster solidarity, close cooperation, and collective responsibility, which are manifested in everyday social practices including communal labor, religious ceremonies, and routine interpersonal interactions. In this sense, altruism in Bali is not merely an individual moral disposition, but an integral component of communal life aimed at maintaining social harmony. Supporting this view, Lansing, (2012) highlights that Tri Hita Karana functions as a practical social framework regulating communal organization, agricultural practices, and irrigation systems, thereby reinforcing cooperation and social cohesion, while Eiseman, (1990) emphasizes that the Balinese principle of balance cultivates deep social solidarity in which individuals are perceived as inseparable members of a broader social network. Nevertheless, the expression of altruism may vary across regions in Bali, reflecting differences in local traditions, the intensity of communal activities, and the degree of attachment to traditional institutions such as the banjar, underscoring the importance of examining altruism not only as an individual attribute but also as a culturally patterned construct within a broader social framework.

Despite the central role of local wisdom in Balinese social life, expressions of altruism may vary across regions, reflecting differences in local traditions, communal intensity, and degrees of engagement with customary social structures. Such variation suggests that altruism should be understood not only as an individual trait, but also as a culturally patterned construct shaped by regional contexts. However, empirical research that quantitatively examines how local cultural values influence students' altruistic behavior remains limited, particularly in Southeast Asian settings. Existing studies have largely relied on qualitative descriptions or universal models of prosocial behavior, leaving a gap in systematic, measurement-based investigations of culturally grounded altruism (Muslihati, 2024; Suhardita et al., 2024). Methodologically, most prior studies on altruism have employed classical test theory approaches, which offer limited capacity to examine measurement invariance and cultural fairness across groups. The Rasch Model provides a robust alternative by enabling precise evaluation of item functioning, scale reliability, unidimensionality, and differential item functioning (DIF) across cultural contexts. Applying

this model allows for a more equitable and culturally sensitive assessment of altruism, particularly in heterogeneous populations.

Although altruism has been widely examined in cross-cultural research, studies that explicitly investigate how local cultural values shape students' expressions of prosocial behavior in Southeast Asian contexts, particularly in Bali, remain limited. Moreover, psychometric investigations employing Rasch-based approaches to examine how altruism items function across culturally diverse regions are still scarce. In response to these gaps, this study aimed to examine patterns and levels of student altruism across cultural regions in Bali using the Rasch Model, while conceptually positioning altruism as a transversal value relevant to value-oriented learning in Physical Education contexts.

Method

Participants

The participants in this study amounted to 525 students from eight representative cultural regions in Bali, namely Tabanan, Denpasar, Badung, Buleleng, Bangli, Gianyar, Semarapura, and Amlapura. The sample selection was carried out using the stratified random sampling technique, which considers the balanced proportions of each region to ensure fair cultural representation. The participating students were in the age range of 16 to 18 years old, with a relatively balanced gender distribution between males and females as can be seen in table 1.

Table 1. Demographic Characteristics of Participants (N = 525)

No	Demographic	n	%	
1	Region	Denpasar	137	26.10%
		Badung	43	8.19%
		Buleleng	110	20.95%
		Bangli	57	10.86%
		Gianyar	85	16.19%
		Tabanan	62	11.81%
		Semarapura	24	4.57%
		Amlapura	7	1.33%
2	Gender	Male	172	32.76%
		Female	353	67.24%
3	Age	16 years old	353	67.24%
		17 years old	106	20.19%
		18 years old	66	12.57%

Instruments

The instrument used in this study is an altruism scale developed based on prosocial behavior theory and contextualized with Balinese cultural values. Item development began with an extensive literature review, followed by preliminary interviews with local cultural figures to ensure cultural relevance. The initial pool of items was then subjected to content validation by five experts, consisting of two scholars in guidance and counseling, one educational psychologist, and two experts in Balinese culture. The experts evaluated each item based on relevance, clarity, cultural appropriateness, and representativeness of the altruism construct, using a structured assessment rubric. Revisions were made based on expert feedback before the instrument was finalized. The final scale comprised 40 items measured on a four point Likert type response format ranging from "Highly Objectionable" to "Highly Appropriate", designed to reduce neutral responding and enhance response discrimination.

Data Collection Procedure

Data were collected directly through the distribution of the scale to students in each region. Before filling in, students have explained the purpose of the research and the guarantee of data confidentiality. Respondents were invited to participate in this study through messages sent through the WhatsApp application. Before participating in the study, respondents were given an initial explanation of the objectives of the study and were informed that their participation was entirely voluntary. In addition, the confidentiality of all personal information provided by respondents is guaranteed and protected. the study

adhered to ethical principles, ensured participant confidentiality, and obtained informed consent from the participants.

Ethics Approval

This study was conducted in compliance with established ethical standards, with strict measures taken to ensure the confidentiality of all participants. Informed consent was obtained from all participants prior to their involvement in the study, including consent for the use and publication of the research findings. Ethical approval Number: 3.5.12/UN32.20/PB/2023 was obtained from Lembaga Penelitian dan Pengabdian Kepada Masyarakat (LPPM) Universitas Negeri Malang, Indonesia.

Data analysis

The collected data was analyzed using the Rasch Model approach through the Winsteps program (Aminah et al., 2023; Bond et al., 2020; Folastrri et al., 2023; Rangka et al., 2023; Sofyan et al., 2024; Sumintono, 2018). The analysis was focused on several aspects, namely: (1) the match of the item with the model, reviewed through the Infit and Outfit Mean Square values (with an acceptable range of 0.5–1.5); (2) reliability and separation index both at the person and item levels; and (3) Differential Item Functioning (DIF) analysis to identify potential differences in item function between cultural regions. In addition, a Person-Item Map was also compiled to visualize the distribution of students' altruism abilities to the difficulty level of the item.

Results

Statistical analysis of the items using the Rasch Model was carried out to evaluate the compatibility of the items of the developed altruism scale. The results of the analysis show that most of the items are within a good fit range for the model. The item's Measure value ranges from -0.76 to +1.05 logits, which indicates that this scale can effectively measure students' levels of altruism from low to high ability. Infit Mean Square Value (IN. MSQ) and Outfit Mean Square (OUT. MSQ) for most items are within the expected range, which is between 0.6 to 1.2, which indicates a good match with the Rasch model. For clarity and conciseness, the complete item statistics summary has been moved to the Supplementary Material (Table S1), while only a brief interpretation is reported in the main text.

Table 2. Person and Item Reliability Summary

Category	Separation Index	Reliability
Person	2.84	.89
Item	7.92	.98

Rasch's analysis of the altruism scale in Table 2 shows that the person reliability value of the participant is 0.89, with a person separation index of 2.84. This reliability value falls into the excellent category, indicating that the instrument has a high ability to distinguish participants based on their level of altruism. With a person separation index of more than 2.0, it can be concluded that this scale can distinguish at least three different groups of altruism levels among respondents (Linacre & Linacre, 2012). Meanwhile, item reliability was recorded at 0.98 with an item separation index of 7.92. This number indicates that the items in the scale have a very high internal consistency and an excellent level of measurement accuracy. An item separation index close to 8 indicates that the items can measure variations in difficulty levels sharply and reliably to describe the varying levels of difficulty of the measured altruistic behavior. Overall, these results reinforce the validity of the construct validity of the altruism scale used, suggesting that this instrument can not only distinguish participants with different levels of altruism but also has a strong and well calibrated item structure.

Next, to determine the ability of the scale to accurately measure the intended construct, we analyzed it using Principal Component Analysis (PCA) of residuals, which measure the level of diversity. The PCA analysis uses two parameters, the first is the total raw variance in the observation (minimum 20%), and the second is the total unexplained raw variance (minimum 15%) (Andrianie et al., 2025; Ariyanto et al., 2025; Linacre, 2006). Further details on the standardized residual variance analysis are presented in Table 3.



Table 3. Standardized Residual Variance

	Observed		Expected
Total raw variance in observations	100.0%		100.0%
Raw variance explained by measures	30.7%		31.7%
Raw variance explained by persons	19.9%		20.6%
Raw variance explained by item	10.8%		11.1%
Raw unexplained variance (total)	69.3%	100.0%	68.3%
Unexplained variance in 1st contrast	8.8%	12.7%	
Unexplained variance in 2nd contrast	5.4%	7.8%	
Unexplained variance in 3rd contrast	4.2%	6.1%	
Unexplained variance in 4th contrast	3.3%	4.8%	
Unexplained variance in 5th contrast	2.8%	4.0%	

The results of Rasch's analysis of the altruism scale in Table 3 show that the total raw variance in the observation is 100%, with 30.7% of the variance explained by the measurements generated by the Rasch model. The variance described by the participant was 19.9%, while the variance described by the item reached 10.8%. This proportion of variance described indicates that Rasch's model managed to capture about one third of the overall variance in the data, which is generally considered adequate in social-based psychometric studies (Linacre & Linacre, 2012). The raw unexplained variance was recorded at 69.3%, with the unexplained variance in the first contrast of 8.8%. This value is still within the tolerance limit, given that in social measurements, the unexplained variance at the first contrast that is below 15% indicates that the scale is close to unidimensionality (Bond et al., 2015). In addition, the unexplained variance at the second, third, fourth, and fifth contrasts was 5.4%, 4.2%, 3.3%, and 2.8%, respectively, which further strengthens the indication that no additional large dimensions interfere with the structure of the main measurement. Thus, these results support the assumption that the altruism scale tested meets the criteria of unidimensionality, i.e. it measures one main construct consistently.

Table 4. Differential Item Functioning (DIF) Analysis of Altruism Items Across Balinese Cultural Regions

Item	Region Comparison	DIF Contrast (Logit)	Standard Error (SE)	t-value	p-value	Interpretation
Item 1	Denpasar vs Gianyar	0,75	0,22	3,34	0,0011	Significant DIF
Item 2	Denpasar vs Gianyar	0,36	0,17	2,16	0,032	Marginal DIF
Item 8	Denpasar vs Gianyar	-0,49	0,15	-3,38	0,0009	Significant DIF
Item 10	Denpasar vs Tabanan	0,44	0,17	2,51	0,0137	Significant DIF
Item 12	Denpasar vs Gianyar	0,66	0,17	3,9	0,0001	Significant DIF

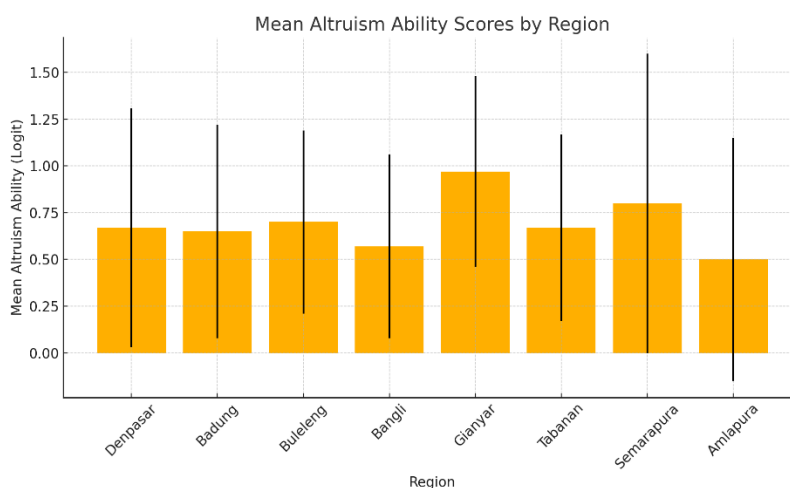
The Differential Item Functioning (DIF) analysis of altruism scale items shows that there are differences in item function between cultural regions in Bali, as shown in Table 4. Of the five items analyzed, four items showed Significant DIF and one item showed Marginal DIF. Item 1 "I like to help a friend with homework" showed a DIF Contrast of 0.75 logit between Denpasar and Gianyar students, with a t-value of 3.34 and a p-value of 0.0011, indicating a significant difference in how students from the two regions responded to this item. Similarly, Item 12 "I feel sad if what I give to a friend is not used or utilized" showed a DIF Contrast of 0.66 logits ($p = 0.0001$), reinforcing the indication that the experience or interpretation of the concept of altruism differs among students from Denpasar and Gianyar. Item 8, although it had a negative DIF Contrast of -0.49 logits, also showed a significant difference ($p = 0.0009$), indicating that students from Gianyar tended to be more likely to agree with this item than students from Denpasar. Item 10 "I will say I don't like my friend if my friend makes me uncomfortable in class" also shows a significant difference between Denpasar and Tabanan students with a DIF Contrast of 0.44 logit and a p-value of 0.0137, although the difference is below the 0.5 logit threshold usually used to identify significant DIF; in a social context, this value is still considered important to observe. One item, namely Item 2 "When I see a person who fell off my motorcycle I immediately help him", shows a Marginal DIF with a DIF Contrast of 0.36 logit ($p = 0.032$). This indicates a tendency for different interpretations between regions, albeit to a more moderate level. Overall, these results show that there are several items on the altruism scale that function differently between students from different cultural regions in Bali. These findings confirm the importance of considering local cultural backgrounds in the development and validation of prosocial behavior measurement instruments. Furthermore, the average altruism ability score (Mean Measure) of students from eight cultural regions in Bali, can be seen in Table 5.



Table 5. Mean Altruism Ability Scores by Region

Region	N	Mean Measure (Logit)	Standard Deviation
Denpasar	137	0.67	0.64
Badung	43	0.65	0.57
Buleleng	110	0.70	0.49
Bangli	57	0.57	0.49
Gianyar	85	0.97	0.51
Tabanan	62	0.67	0.50
Semarangapura	24	0.80	0.80
Amlapura	7	0.50	0.65

Figure 1. Mean Altruism Ability Score by Region



Based on the results in Table 5, it can be seen that the average student altruism ability is in the range of 0.50 to 0.97 logits. The Gianyar region recorded the highest average altruism ability, which was 0.97 logits, followed by Semarangapura (0.80 logit) and Buleleng (0.70 logit). Meanwhile, the Amlapura region has the lowest average altruism ability, which is 0.50 logits. In terms of data dissemination, the standard deviation (SD) of altruism ability in each region varied between 0.49 to 0.80. The highest standard deviation was recorded in Semarangapura (0.80), indicating a greater variation in the level of student altruism in the region. In contrast, the Buleleng and Bangli regions showed a lower standard deviation (0.49), indicating a higher level of homogeneity in the altruism ability of students in both regions. In general, these results show that although the overall level of altruism of Balinese students is in the moderate to high category, there are variations between cultural regions. These findings indicate that local cultural backgrounds likely contribute to the formation and expression of altruistic behavior among students.

Discussion

This study aimed to examine patterns and levels of student altruism across cultural regions in Bali, focusing on students from eight representative regions, namely Tabanan, Denpasar, Badung, Buleleng, Bangli, Gianyar, Semarangapura, and Amlapura. The findings underscore the importance of understanding student altruism as a transversal educational value, as it plays a significant role in supporting students' social and moral development within culturally diverse educational contexts. By applying the Rasch Model, this study explored both the overall structure of altruism as a prosocial construct and the ways in which its expression varies across cultural settings. The results reveal that while altruism constitutes a relatively stable construct among Balinese students, meaningful regional variations emerge, highlighting the influence of local cultural values on students' prosocial orientations.

Altruism as a Transversal Educational Value

From a transversal educational perspective, the findings of this study indicate that altruism functions not only as a psychological and cultural construct, but also as a transferable educational value that informs value-oriented learning across domains, including Physical Education. This positioning allows altruism to be understood as a core component of character education that extends beyond cognitive learning outcomes. Although Physical Education was not examined empirically in this study, learning environments characterized by cooperation, shared goals, and embodied interaction such as team games, cooperative tasks, and fair-play activities provide concrete contexts in which altruistic values can be enacted and reinforced. In this sense, the present findings offer conceptual support for integrating altruism as a transversal value within Physical Education curricula, particularly through pedagogical strategies that emphasize cooperation, mutual support, and collective responsibility (Huang, 2024; Zhang, 2024).

Cultural Context and the Expression of Altruism

The Rasch Model analysis demonstrates that while altruism is upheld as a shared value across Balinese society, its expression varies across cultural regions, confirming that prosocial behavior is deeply embedded in local value systems. As argued by Matsumoto and Hwang, (2021), moral and prosocial behavior emerges from the interaction between individual psychological dispositions and the cultural systems to which individuals belong. In the Balinese context, cultural principles such as *ngayah* (voluntary service for the common good), *karma phala*, and the balance-oriented philosophy of *Tri Hita Karana* form an ethical framework in which altruism is understood not merely as a personal moral choice, but as an expression of collective obligation. These findings reinforce the view that altruism cannot be separated from the socio-cultural environments that shape students' socialization processes.

The results further suggest that altruism among Balinese students constitutes a relatively stable and structured construct, while remaining sensitive to cultural context. This interpretation aligns with Eisenberg et al., (2013), who emphasize that altruism develops through the long-term internalization of social values reinforced by cultural expectations and social norms. In Bali, students' prosocial orientations emerge through continuous engagement with cultural practices, religious ceremonies, and community-based activities that emphasize collective harmony. Thus, altruistic behavior reflects the dynamic integration of individual dispositions and culturally grounded value systems, resulting in region-specific patterns of prosocial expression.

Local Wisdom, Socialization, and Collective Responsibility

One of the central contributions of this study lies in highlighting the role of Balinese local wisdom, particularly *Tri Hita Karana*, in shaping students' altruistic orientations. This philosophy, which emphasizes harmonious relationships among humans, the natural environment, and the divine, operates as a lived ethical framework rather than a purely abstract ideal. In regions where traditional practices remain strongly embedded in everyday life, altruistic behavior is enacted through communal cooperation, mutual assistance, and willingness to prioritize collective well-being over individual interests (Fitriyah et al., 2021; Silmy et al., 2021). This finding resonates with Geertz, (1973) classic assertion that religion and culture in Balinese society are inseparable and deeply institutionalized within social structures, shaping moral behavior through shared norms and collective obligations. Similarly, Vakoch, (2013) argues that altruism in many cultural contexts emerges from value systems institutionalized through rituals, informal learning, and communal organization rather than from isolated individual reasoning. The results of the Rasch analysis further demonstrate that the altruism instrument exhibits strong reliability and adequate separation indices for both participants and items. These findings indicate that the scale is capable of distinguishing varying levels of student altruism while maintaining a consistent and coherent item structure. Importantly, the instrument not only meets psychometric standards, but also demonstrates sensitivity to the cultural contexts underlying students' responses. Such results lend empirical support to theories of prosocial development that emphasize the central role of sociocultural environments in shaping moral behavior (Carlo et al., 2010).

Regional Variation and Differential Item Functioning

A key empirical contribution of this study is the identification of regional variation in altruistic patterns through Differential Item Functioning (DIF) analysis. Several items functioned differently across regions



such as Denpasar, Gianyar, and Tabanan, indicating that while altruism may be conceptualized as a general value, its concrete expressions are shaped by local cultural contexts. This finding is consistent with Schwartz, (1992) proposition that although values such as altruism are broadly universal, their concrete expressions and relative importance are shaped by dominant cultural value systems. Grusec et al., (2002) similarly emphasize that prosocial behavior is internalized within emotionally meaningful and culturally structured contexts. Differences between more urbanized regions and areas with stronger adherence to traditional practices may reflect the influence of globalization and urbanization, which, as noted by Matsumoto and Hwang, (2021), who suggest that processes of globalization and urbanization may reshape value landscapes, allowing individualistic orientations to coexist and sometimes compete with traditional collectivist norms. In more urban contexts, social interactions may become increasingly transactional and communal bonds less pronounced, which can influence the intensity and forms of prosocial behavior.

From a measurement perspective, these findings are consistent with Bond et al., (2015) who emphasize that the development and application of social measures such as altruism scales must account for cultural context as an integral component of construct validity. In this sense, the presence of DIF across cultural regions should not be interpreted as measurement bias, but rather as evidence of culturally nuanced expressions of a shared prosocial construct.

Educational Implications for Character Education and Physical Education

Taken together, these findings underscore the importance of culturally grounded character education approaches rooted in local wisdom such as Tri Hita Karana. In practical terms, this suggests that educational programs including Physical Education can integrate altruistic values through cooperative learning strategies, group-based problem-solving tasks, and reflective discussions on fairness, mutual support, and collective responsibility. Such approaches align with Putnam, (2000) emphasis on social cohesion and community participation, as well as Hofstede, (2001) cultural characterization of collectivist cultures that prioritize group harmony. By embedding altruism within culturally meaningful learning experiences, education can foster prosocial development that is not only theoretically grounded but also contextually relevant and sustainable. Although values such as altruism are often regarded as universal (Schwartz, 1992), their expressions and relative priorities are deeply shaped by cultural dynamics. From this perspective, cultural context functions not merely as a background condition, but as an active force in the formation of social behavior. The altruistic behavior of Balinese students thus emerges from the complex interaction between individual dispositions and collective cultural systems.

Conclusions

This study confirms that student altruism constitutes a stable and measurable prosocial construct that is nevertheless shaped by sociocultural context. Using Rasch Model analysis across cultural regions in Bali, the findings demonstrate that while altruism functions as a shared educational value, its expressions vary meaningfully according to local cultural systems, as reflected in differential item functioning across regions. Grounded in Balinese local wisdom, particularly the principle of Tri Hita Karana, the results highlight that prosocial development emerges from the interaction between individual dispositions and collective value structures reinforced through social practices and community life. Conceptualizing altruism as a transversal educational value offers important implications for value-oriented education, including the integration of prosocial learning objectives into curricula, culturally responsive teacher education and professional development, and pedagogical practices in Physical Education through cooperative activities, teamwork, and reflective learning. Despite these contributions, the study is limited by its cross-sectional design, which does not allow for causal inference, its exclusive reliance on self-report measures, its geographic focus on Bali, and the absence of complementary qualitative data. Future research is therefore encouraged to extend this work by examining altruism across broader cultural contexts, employing longitudinal designs, directly integrating Physical Education settings, and developing culturally grounded educational interventions to promote sustainable prosocial and character development.



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