WESTERN SYDNEY UNIVERSITY

ACU INSTITUTE FOR POSITIVE PSYCHOLOGY & EDUCATION

Furthering Positive Futures for Youth with Intellectual Disabilities

Final Research Report for Participating Schools

2018

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Background

Supporting youth with intellectual disabilities to live productive and fulfilling lives is a crucial health and social concern for Australia. The number of Australians living with intellectual disabilities is on the rise (ABS, 2012) with a child receiving this diagnosis every 2 hours (PricewaterhouseCoopers, 2011). Disturbingly, Australia is among the worst performers internationally with regards to key indicators of disadvantage for people with a disability (PricewaterhouseCoopers, 2011).

Youth with intellectual disabilities experience an increased vulnerability to multiple psychosocial and physical issues that adversely impact on their life potential. These include higher depression, anxiety and externalising behaviours (Morin et al., 2017); weight problems (Maïano et al., 2016); social exclusion and less positive peer relationships and relationships with teachers (Ruijs et al., 2010). Given that school life and physical activity have been demonstrated to play a crucial role in the development of psychosocial and physical wellbeing for youth without intellectual disabilities, it is particularly surprising that previous studies have generally neglected to consider these potentially important drivers of desirable psychosocial and physical outcomes for youth with intellectual disabilities.

Progress in research, policy and practice has been hampered by weak methodology where small scale, cross-sectional designs, and poor measurement prevail. Australia's ratification of the UN (2006) Convention on the Rights of Persons with Disabilities and the establishment of The National Disability Research and Development Agenda (Australian Government, 2011) and National Disability Strategy 2010-2020 (Council of Australian Government, 2011) confirm the national commitment to tackling this major public health and social concern and building a strong disability research base to combat the inequality experienced by people with intellectual disabilities.

This project is the first in Australia to conduct a longitudinal study to identify the school and physical activity factors that can best cultivate positive psychosocial and physical outcomes for youth with intellectual disabilities.

Aims of the Study

This study aimed to:

1. Examine the relations between school life and psychosocial wellbeing among youth with intellectual disabilities.
2. Examine the relations between physical activity, psychosocial and physical wellbeing among youth with intellectual disabilities.
3. Examine whether the relations are moderated by personal characteristics.

Research Design

The research utilised a quantitative longitudinal design whereby youth with intellectual disabilities, their parents and teachers, were asked to complete a questionnaire annually over three consecutive years. Additionally, participating students were asked to complete physical assessments annually. The questionnaires that students, their teachers and parents completed enquired into student experiences within the classroom and wider school community, student relationships with their peers and teachers, student behaviour and psychosocial wellbeing, and involvement in physical activities. The physical assessments that students completed measured students' physical fitness and wellbeing.

A total of 252 (170 male; 82 female) students with an intellectual disability from 36 secondary schools across NSW and ACT participated in the project. Of these students, 124 (83 male; 41 female) students with a mild intellectual disability and 107 (76 male; 31 female) students with a moderate intellectual disability were enrolled in the school support unit and 16 (7 male; 9 female) students with a mild intellectual disability and 5 (4 male; 1 female) students with a moderate intellectual disability were enrolled in mainstream classes (Table 1). The average age of participating students at Time 1 was 15.07 years (SD = 1.67).

Table 1.

Student Demographic Information

	N	%
Mild Intellectual Disability		
Male	90	64
Female	50	36
Mainstream Classes	16	11
Support Unit	124	89
Moderate Intellectual Disability		
Male	80	71
Female	32	29
Mainstream Classes	5	4
Support Unit	107	96

The participating students' teachers and parents were also asked to complete questionnaires annually, for three consecutive years. Of the total sample, 163 teachers and 85 parents completed the questionnaires at Time 1, 104 teachers and 49 parents completed the questionnaires at Time 2, and 95 teachers and 44 parents completed the questionnaires at Time 3.

Following the completion of questionnaires at Time 3, analyses were conducted to confirm that all indicator and outcome factors used in the research demonstrated acceptable levels of reliability (Appendix A). Exploratory and Confirmatory Factor Analyses were then computed to ensure that the data provided a good representation of the theoretical models tested, supporting the validity of the models assessed. Invariance testing confirmed that males and females, and students with a mild and moderate intellectual disability interpreted the questions in a similar manner, further validating the measures used and enabling group comparisons to be made (Appendix B). Finally, Hierarchical Mixed Linear Regression identified the relationships that exist between the indicators and outcomes for all students, for males and females and, for students with a mild and moderate intellectual disability (Appendix C).

Findings

How does School Climate, the Relationship with Teachers and Peers, and School Experiences Impact Student *Anxiety*?

Anxiety was measured by asking participants to answer 27 questions on a response scale comprised of "never," "rarely," "occasionally," "often," "always," and "I do not understand." The 27 questions measured three factors: worries (e.g., I worry when I do something new), fears (e.g., I am scared of meeting new people) and physiological symptoms (e.g., When I am nervous or uncomfortable, my heart starts to beat very fast).

Overall, anxiety increased when students:

- Feared for their own physical safety and the safety of their belongings at school.
- Reported higher conflict with their teachers.
- Reported higher warmth and trust with their teachers.
- Experienced non-physical aggression from others.

All students reported increased feelings of anxiety as the fear that the student felt at school for their own physical safety and the safety of their belongings increased. However, when it came to reporting having received acts of non-physical and physical aggression from others, increased anxiety levels were only found for students who reported receiving non-physical aggression from others.

With regards to the relationship between students and their teachers, those students who reported less conflict with their teacher reported lower levels of anxiety. However, students who perceived the relationship with their teacher as warm and trusting reported higher levels of anxiety, which requires further investigation to determine what the mediating factors are.

Table 2.

Predictors of Anxiety

Predictors	Anxiety ICC = 0.47	
	Estimate	p-value
School Climate		
School Bonding Climate	0.03	0.556
Student Relational Climate	-0.09	0.073
Teacher-Student Relational Climate	0.09	0.127
Student Safety Climate - Fear	0.25	<0.001*
Classroom Climate	0.05	0.481
Teacher		
Warmth	0.15	0.026*
Lack of Conflict	-0.18	0.039*
Responsiveness	0.00	0.984
Autonomy	0.15	0.130
Demandingness	0.11	0.199
School Experiences		
Belonging to school	-0.03	0.520
Students loneliness	0.09	0.137
Physical aggression	0.08	0.063
Non-physical aggression	0.20	<0.001*

Note. * = significant relationship (<.05).

For students with moderate intellectual disability, anxiety increased when students:

- Reported a positive classroom environment.
- Reported a positive relationship with their teacher.
- Felt lonely within their classroom.

For students with a moderate intellectual disability, however, increased feelings of anxiety were reported when the classroom environment was perceived to be positive. Further, the stronger the perceived positive relationship between a student with a moderate intellectual disability and their teacher, the higher the reported feelings of anxiety. These relationships need to be investigated further to fully understand why negative outcomes are occurring from positive indicators. It may be that irrespective of a positive relationship and environment, certain needs of students with a moderate intellectual disability are not being met. As feelings of loneliness increased for students with a moderate intellectual disability, so too did their anxiety suggesting that peer relationships may play an important role in reducing anxiety.

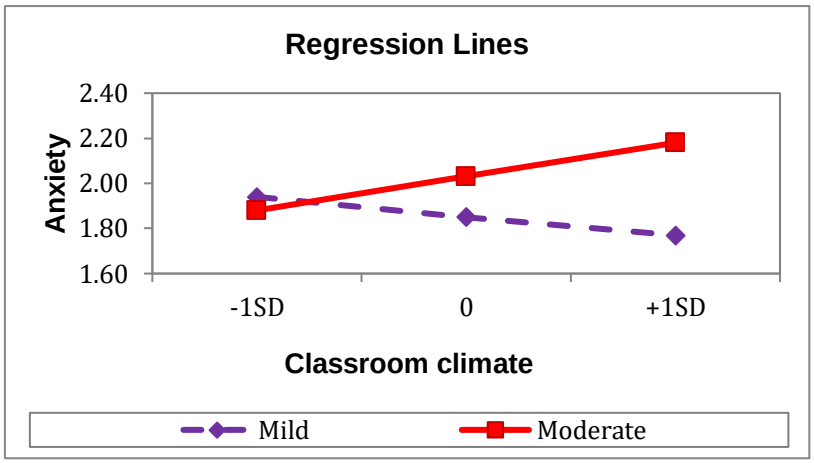

Figure 1. Students with a moderate intellectual disability reported increased anxiety as the positivity of the classroom environment increased.

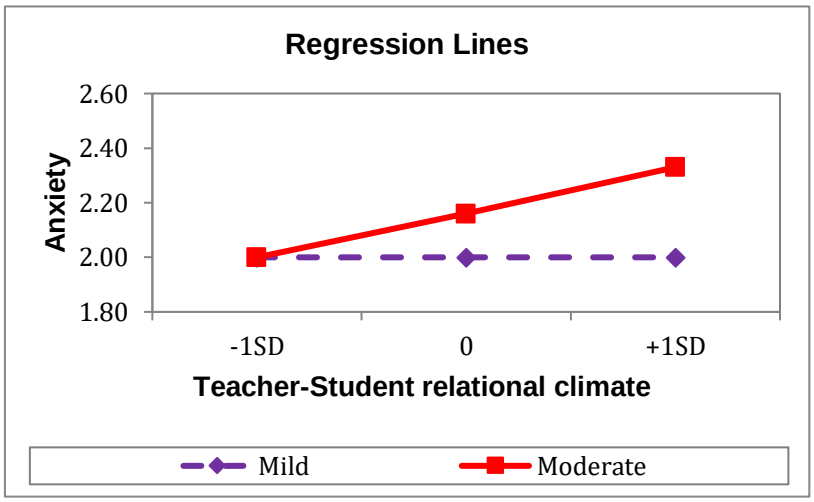

Figure 2. Students with a moderate intellectual disability reported increased anxiety as the perceived positivity of the teacher-student relationship increased.

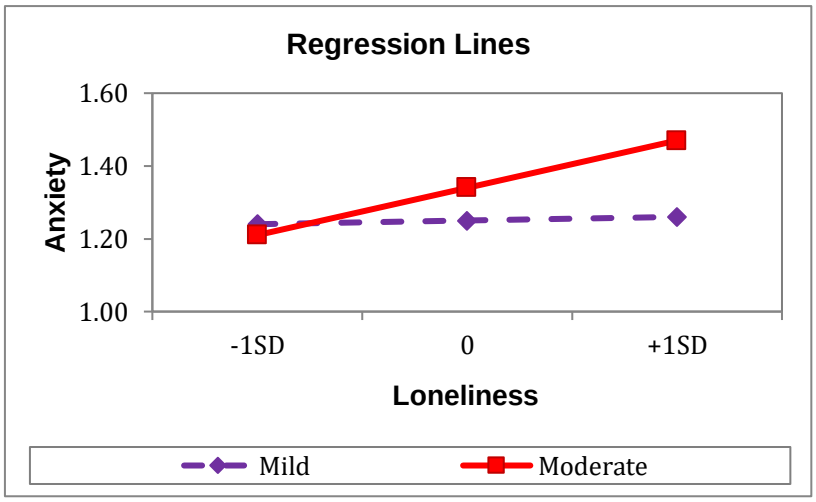

Figure 3. Students with a moderate intellectual disability who reported feeling lonely reported an increase in anxiety.

For males, anxiety increased when they:

- Felt lonely within their classroom.

Males who reported that they felt lonely at school, and within their classroom specifically, also reported increased levels of anxiety.

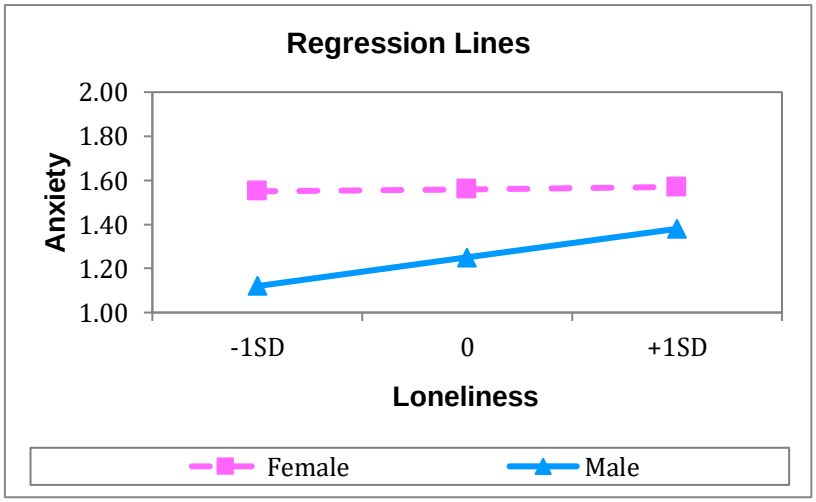

Figure 4. Males who reported feeling lonely reported an increase in anxiety.

How does School Climate, the Relationship with Teachers and Peers, and School Experiences Impact Student *Depression*?

Depression was measured by asking participants to answer 21 questions on a response scale ranging from "never," "rarely," "occasionally," "often," "always," and "I do not understand." The 21 questions measured mood, interest and pleasure, appetite, sleep patterns, activity levels, energy levels, guilt and worthlessness, concentration and thoughts of death.

Overall, depression increased when students:

- Reported that their positive relationships with their peers decreased.
- Feared for their own physical safety and the safety of their belongings at school.
- Reported higher conflict with their teachers.
- Reported higher warmth and trust with their teachers.
- Felt connected to their school.
- Experienced non-physical aggression from others.

Like anxiety, as the fear that a student feels at school for their own physical safety and the safety of their belongings increases, so too does their reported feelings of depression. Although, increased levels of depression were only found for students who reported receiving acts of non-physical aggression from others. Thus, depression did not increase for students who reported receiving acts of physical aggression.

With regards to the relationship between students and their teachers, students who reported less conflict with their teacher reported lower levels of depression. However, students who perceived their relationship with their teacher as warm and trusting reported higher levels of depression. These results require further investigation to determine what the mediating factors are.

Signalling the importance of peer relationships, depression increased as peer relationships were more negative. Surprisingly, depression also increased with a sense of connection to school. With the majority of students placed in support units, further investigation is required to determine if stigma in educational placement is being observed.

Table 3
Predictors of Depression

Predictors	**Depression ICC = 0.52**	
	Estimate	p-value
School Climate		
School Bonding Climate	0.01	0.754
Student Relational Climate	-0.10	0.014*
Teacher-Student Relational Climate	0.06	0.200
Student Safety Climate - Fear	0.21	<0.001*
Educational Climate	-0.02	0.730
Teacher		
Warmth	0.13	0.018*
Lack of Conflict	-0.21	0.004*
Responsiveness	0.01	0.952
Autonomy	0.02	0.843
Demandingness	0.03	0.666
School Experiences		
Belonging to school	-0.15	0.000*
Students loneliness	0.08	0.072
Physical aggression	0.03	0.450
Non-physical aggression	0.21	<0.001*

Note. * = significant relationship (<.05).

For students with a moderate intellectual disability, depression increased when students:

- Reported a positive relationship with their teacher.
- Felt lonely within their classroom.

For students with a moderate intellectual disability, the stronger the perceived positive relationship between a student and their teacher, the higher the reported feelings of depression. As loneliness increased, so too did depression.

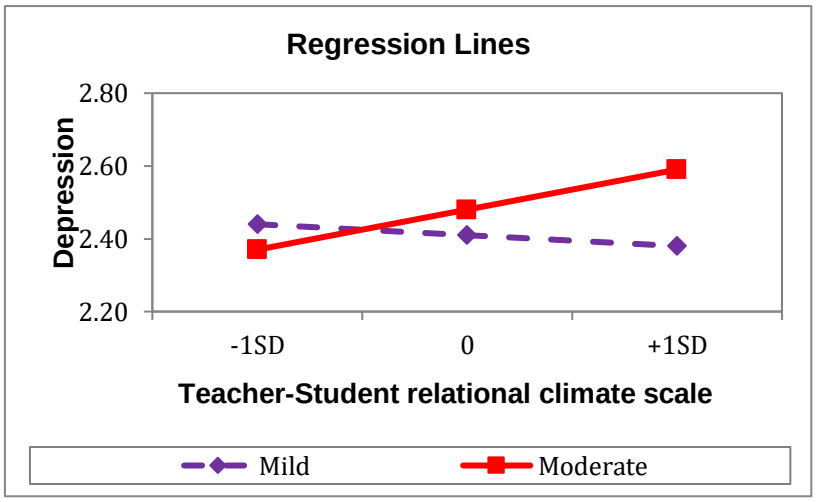

Figure 5. Students with a moderate intellectual disability reported feeling depressed when the relationship with their teacher was perceived as positive.

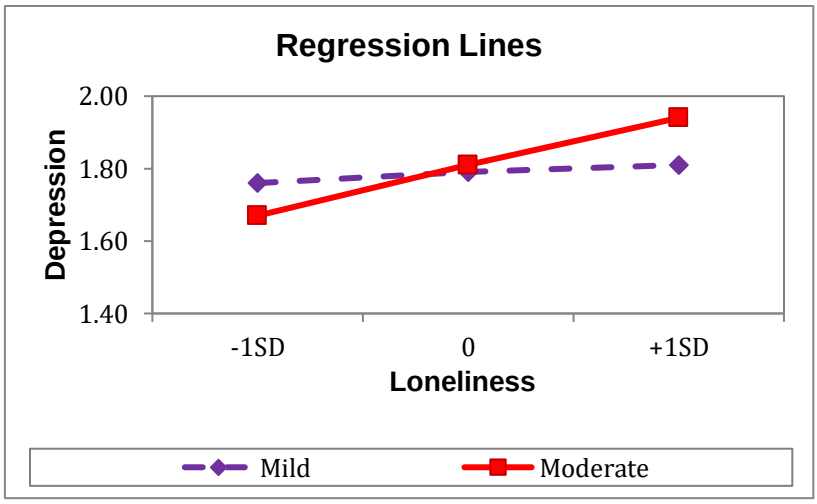

Figure 6. Students with a moderate intellectual disability reported increased levels of depression as their loneliness increased.

For males, depression increased when they:

- Felt lonely within their classroom.

For females, depression increased when they:

- Perceived a negative relationship with peers.

Males who reported that they felt lonely at school, and within their classroom specifically, also reported increased levels of depression. Some students reported that as their perceived positive relationship

with their peers increased, their feelings of depression decreased. This finding was particularly strong for females.

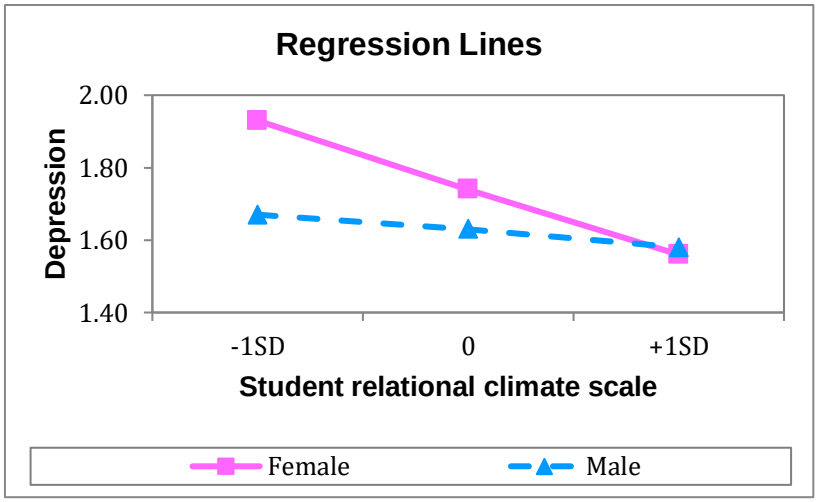

Figure 7. Females depression decreased when the relationship with their peers was perceived as positive.

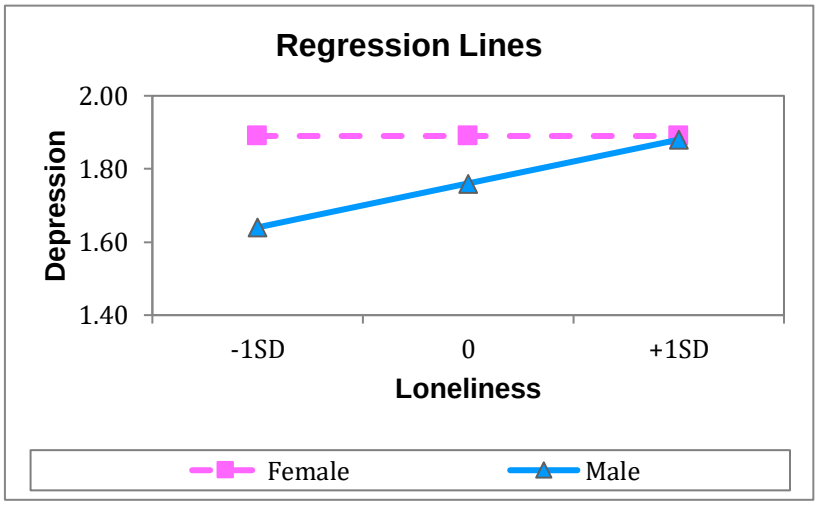

Figure 8. Males reported an increase in depression as their loneliness increased.

How does School Climate, the Relationship with Teachers and Peers, and School Experiences Impact Student *Prosocial Behaviour, Problematic Behaviour and Delinquency?*

Engagement in prosocial behaviours was measured across four items which required participants to note the frequency in which they engage in the behaviours on a response scale ranging from "never," "1 time," "2 times," "3 times," "4 times," "5 times or more," and "I do not understand." The behaviours included helping, sharing and being attentive to others. Participants were similarly required to note the frequency of their problematic behaviours on the same response scale for prosocial behaviours. The problematic behaviours included acts of non-physical aggression, such as: refusing to follow instructions, talking rudely, skipping school and, disturbing the class on purpose. Delinquency included acts of physical aggression, such as: using a weapon when fighting, breaking property, stealing, and physically hurting others.

Table 4.

Predictors of Prosocial and Problematic Behaviours, and Delinquency

Predictors	**Prosocial ICC = 0.42**		**Problematic behaviour ICC = 0.52**		**Delinquency ICC = 0.33**	
	Estimate	p-value	Estimate	p-value	Estimate	p-value
School Climate						
School Bonding Climate	0.18	0.026*	-0.01	0.887	0.11	0.032*
Student Relational Climate	-0.02	0.859	0.01	0.926	0.06	0.275
Teacher-Student Relational Climate	-0.10	0.375	-0.00	0.990	0.02	0.777
Student Safety Climate - Fear	0.16	0.035*	0.28	<0.001*	0.22	<0.001*
Educational Climate	0.12	0.318	-0.13	0.118	-0.25	0.002*
Teacher						
Warmth	0.11	0.360	0.09	0.233	-0.01	0.903
Lack of Conflict	-0.11	0.474	-0.58	<0.001*	-0.24	0.013*
Responsiveness	-0.27	0.229	-0.03	0.857	-0.06	0.645
Autonomy	0.58	0.002*	0.21	0.086	0.12	0.290
Demandingness	0.02	0.878	0.01	0.913	0.09	0.341
School Experiences						
Belonging to school	0.13	0.152	-0.06	0.264	0.06	0.215
Students loneliness	0.02	0.882	0.02	0.739	0.02	0.718
Major Victimization	0.05	0.528	0.30	<0.001*	0.35	<0.001*
Minor Victimization	0.38	<0.001*	0.22	<0.001*	0.12	0.005*

Note. * = significant relationship (<.05).

Mixed results were found for the factors associated with the behaviour of youth with intellectual disabilities. With regard to the bond that a student has with their school, for some students the stronger the feeling of connectedness with their school, the more the student reported engaging in prosocial behaviours toward their peers. Similarly, as the student perception of a positive classroom environment increased, their reported levels of physical aggression decreased. However, for other students, an increased feeling of connectedness to the school led to an increase in the reporting of physical aggression toward their surroundings and their peers. These differences were not accounted for by gender or level of intellectual disability but may be attributed to peer group affiliations.

As the fear that a student feels at school for their own physical safety and the safety of their belongings increased, so too did their reported acts of physical and non-physical aggression. For some students, however, as their fear increased so too did their reported attentiveness and helpful behaviours toward their peers. These differences, which were not accounted for by gender or level of intellectual disability, could be attributed to the different coping strategies that students have for dealing with stressful environments. That is, some students may be prone to react negatively while others attempt to counteract a negative environment by attempting to please and be helpful to those individuals that they fear.

Of those students who reported that they had received acts of physically aggressive behaviours from others, some were more likely to display more physical and non-physical aggression toward others and their belongings, while others reported being more attentive and helpful to others.

With regard to the relationship between students and their teachers, students who reported less conflict with their teacher reported lower levels of physical and non-physical aggression toward others and their belongings. Students also reported increased prosocial behaviours towards others when they perceived their teacher as providing more autonomy in the classroom. That is, students who believe they have the freedom to exercise independence within the classroom are attentive and helpful towards their peers.

Overall, students' prosocial behaviour increased when students:

- Felt connected to their school.
- Feared for their own physical safety and the safety of their belongings at school.
- Were granted higher autonomy from their teachers.
- Experienced non-physical aggression from others.

For females, prosocial behaviour increased when they:

- Perceived their relationship with peers as negative.
- Reported more negative relationships with their teacher and peers.

For males, prosocial behaviour increased when they:

- Felt connected to their school.

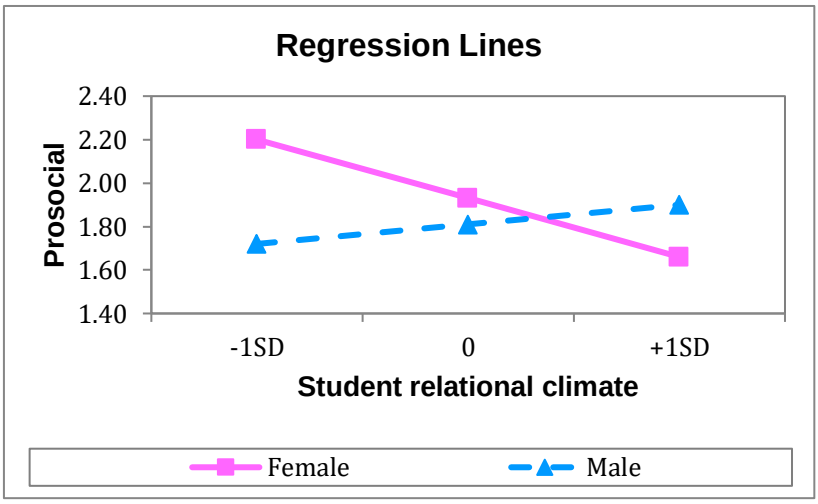

Figure 9. Females reported less prosocial behaviours when the relationship with their peers was perceived as positive.

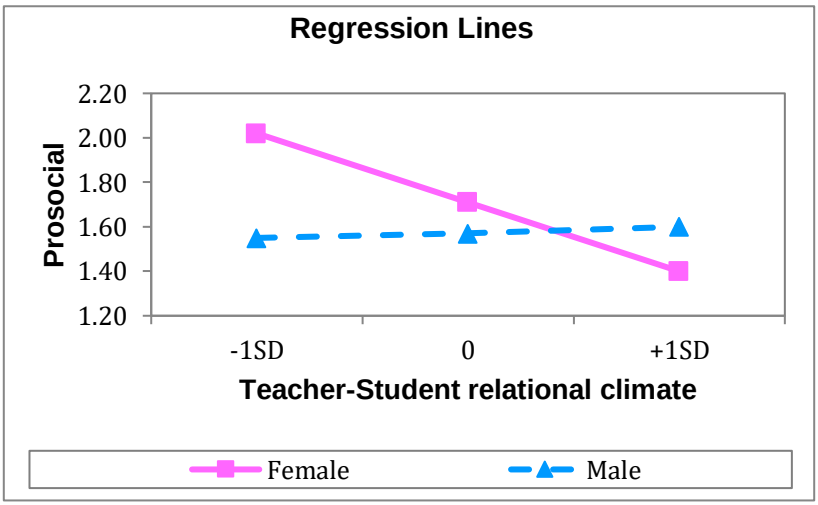

Figure 10. Females reported less prosocial behaviours when the relationship with their teacher was perceived as positive.

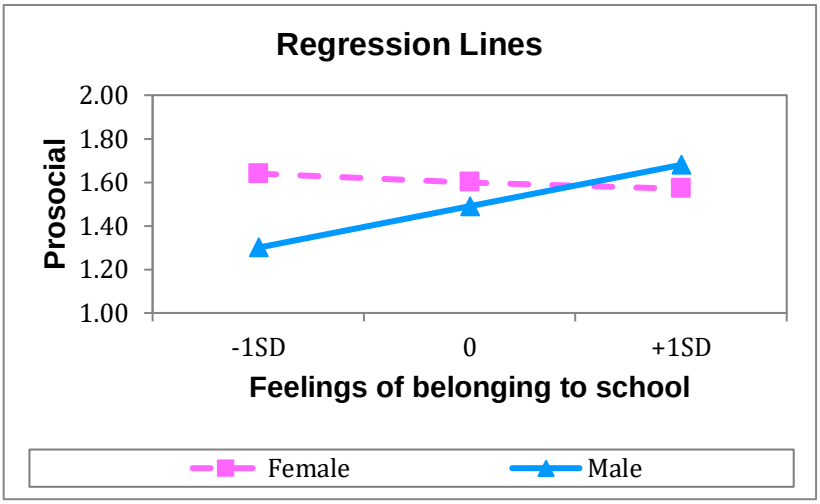

Figure 11. Males reported more prosocial behaviours when they felt as though they belonged to the school community.

Overall, students' problematic behaviour increased when students:

- Feared for their own physical safety and the safety of their belongings at school.
- Reported more conflict with their teacher.
- Experienced both non-physical and physical aggression from others.

For students with a moderate intellectual disability, problematic behaviour increased when they:

- Experienced non-physical aggression from others.

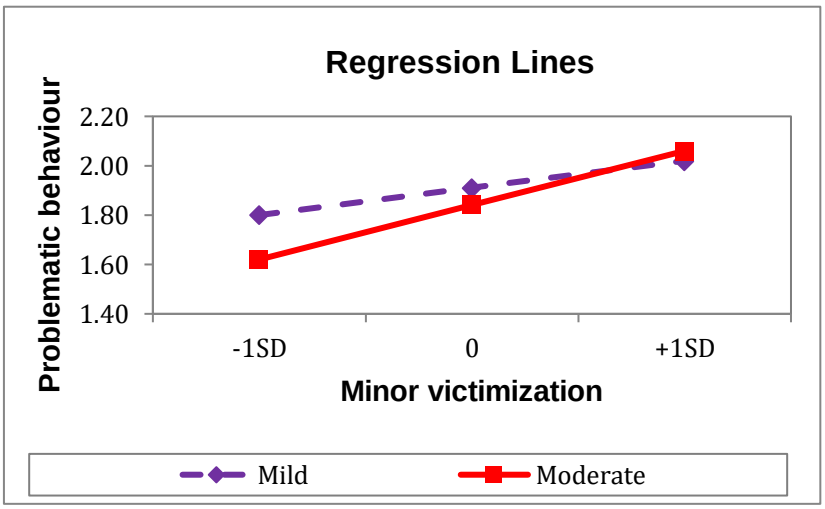

Figure 12. Students with a moderate intellectual disability who reported receiving non-physical acts of aggression from others reported being more physically aggressive to others.

Overall, students' delinquent behaviour increased when students:

- Felt connected to their school.
- Feared for their own physical safety and the safety of their belongings at school.
- Experienced a negative educational climate.
- Reported more conflict with their teacher.
- Experienced more physical aggression from others.

For students with a mild intellectual disability, delinquent behaviour increased when they:

- Felt that they did not belong to the school community.

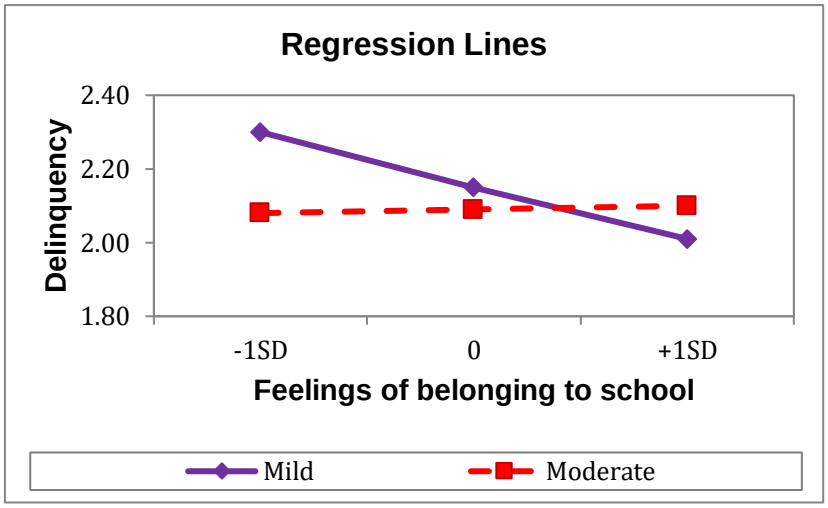

Figure 13. Students with a mild intellectual disability reported less delinquent behaviours when they felt as though they belonged to the school community.

For students with a moderate intellectual disability, delinquent behaviour increased when they:

- Experienced non-physical acts of aggression from others.

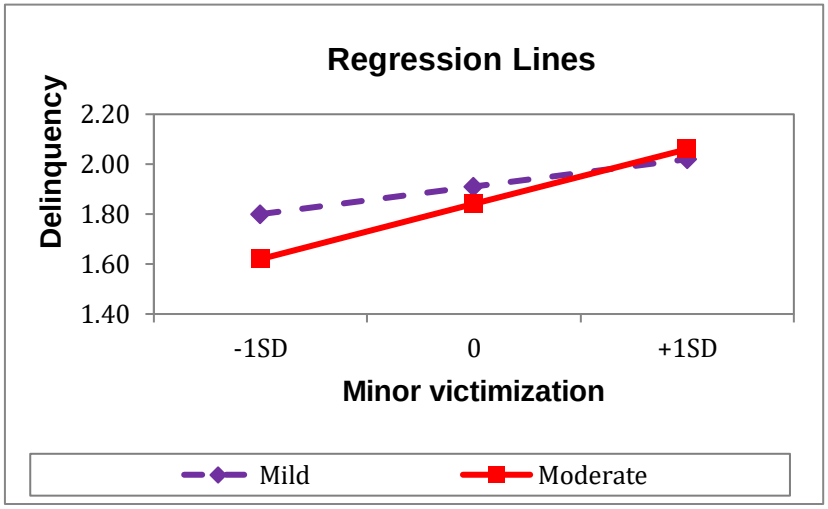

Figure 14. Students with a moderate intellectual disability who reported receiving non-physical acts of aggression from others reported being more physically aggressive to others.

For males, delinquent behaviour increased when they:

- Reported receiving non-physical acts of aggression from others (this was the case for males with a mild intellectual disability and all students with a moderate intellectual disability).

Figure 15. Males who reported receiving non-physical acts of aggression from others reported being more physically aggressive to others.

How does Physical Wellbeing and Physical Activity Impact Student *Self-Concept, Anxiety, Depression and Physical Ability?*

Motives for engaging in physical activity was measured across 15 items on a response scale ranging from "totally disagree," "disagree," "in between," "agree," "totally agree," and "I do not understand." The motives include interest and enjoyment (e.g. I do sport because it is fun), competence (e.g., I do sports because I want to improve my skills), appearance (e.g., I do sport because I want to have more muscles to look better), fitness (e.g., I do sport because I want to be strong and healthy) and socialisation (e.g., I do sport because I enjoy being with others). Self-concept was measured by asking participants to indicate their response to the following two questions "I like myself" and "I want to stay as I am" on a scale ranging from "totally disagree," "strong disagree," "disagree," "agree," "strongly agree," "totally agree," and "I do not understand." Flexibility was measured via the sit and reach flexibility test where the objective is to sit with legs in front and heels pressed against a metal frame while pushing forward a ruler as far as possible, attached to the metal frame.

Overall, students' self-concept increased when students:

- Participated in physical activity to improve their appearance.
- Students experienced pride for applying themselves and learning a new skill in sport.

When it comes to the motives for participating in physical activity, those students who reported that the reason was to improve their appearance have a higher self-concept than their peers. This finding is particularly strong for females. Higher levels of self-concept were also found for students who are proud of themselves when they apply themselves and learn new skills in sport. Students with a moderate intellectual disability reported feeling proud of themselves when they perform better at physical activity than their peers.

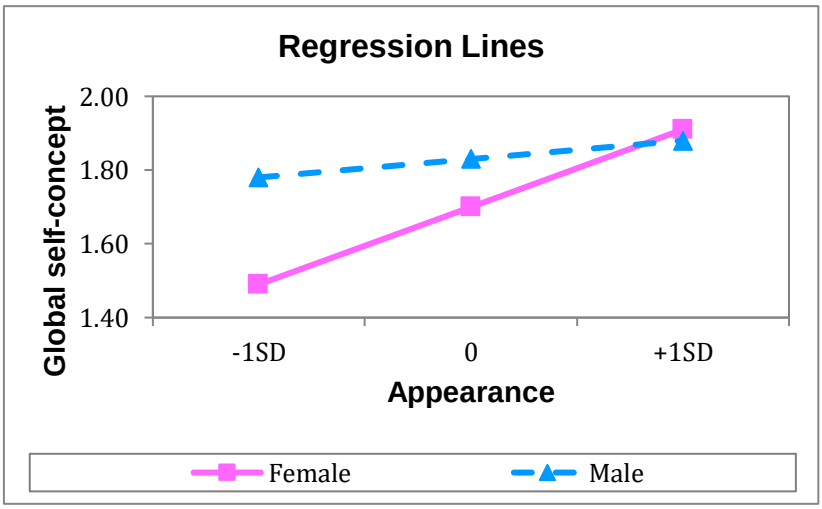

Figure 16. Females who engaged in physical activity to improve their appearance reported higher levels of self-concept.

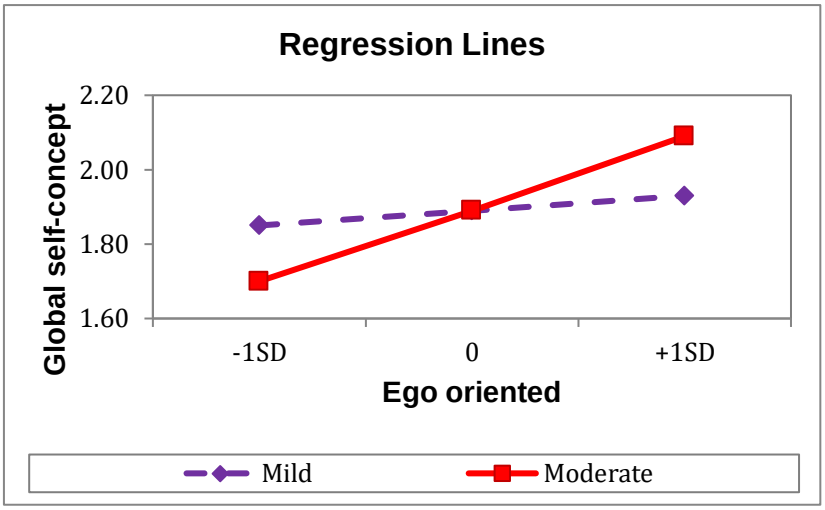

Figure 17. Students with a moderate intellectual disability who reported that they excel at physical activity also reported higher levels of self-concept.

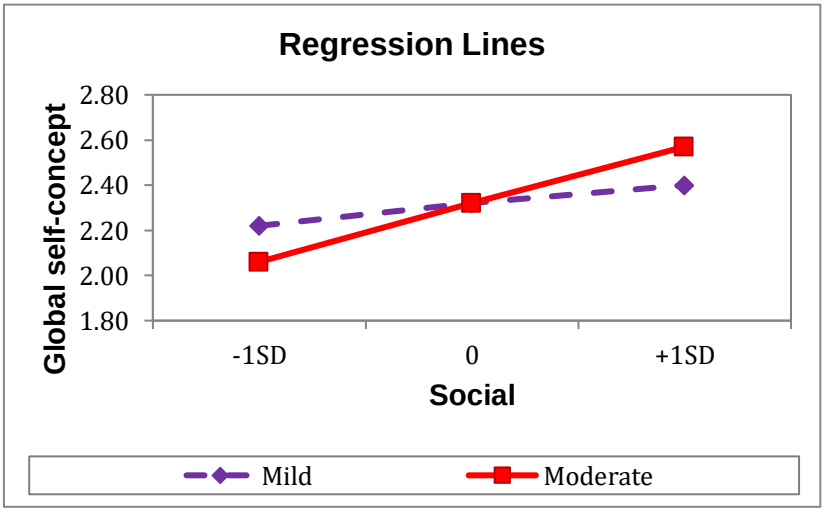

Figure 18. Students with a moderate intellectual disability who reported engaging in physical activity for socialisation reported higher levels of self-concept.

Overall, students' trends in anxiety and depression according to motivation for sport varied based on gender.

For females, anxiety and depression was reduced when they:

- Reported engaging in physical activity for interest and/or enjoyment.
- Report engaging in physical activity to improve their fitness (anxiety specifically).
- Reported higher levels of pride in applying themselves and learning new skills in sport (depression specifically).

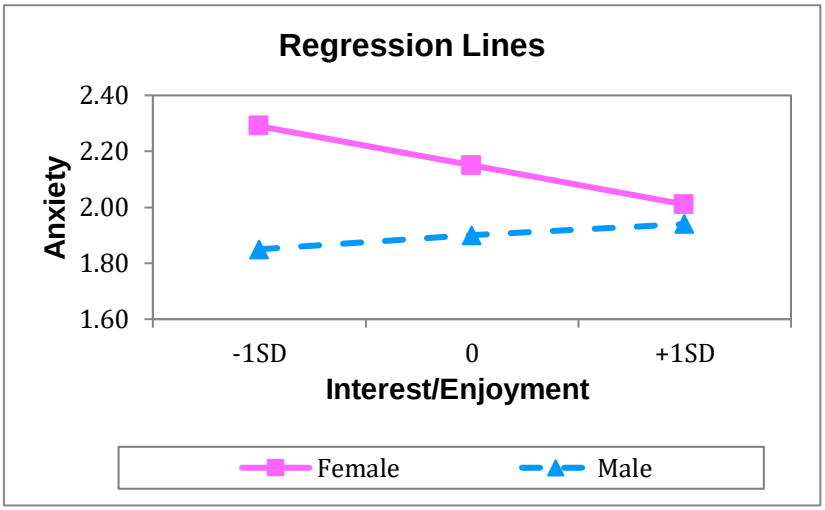

Figure 19. Females who engaged in physical activity for interest and/or enjoyment reported lower levels of anxiety.

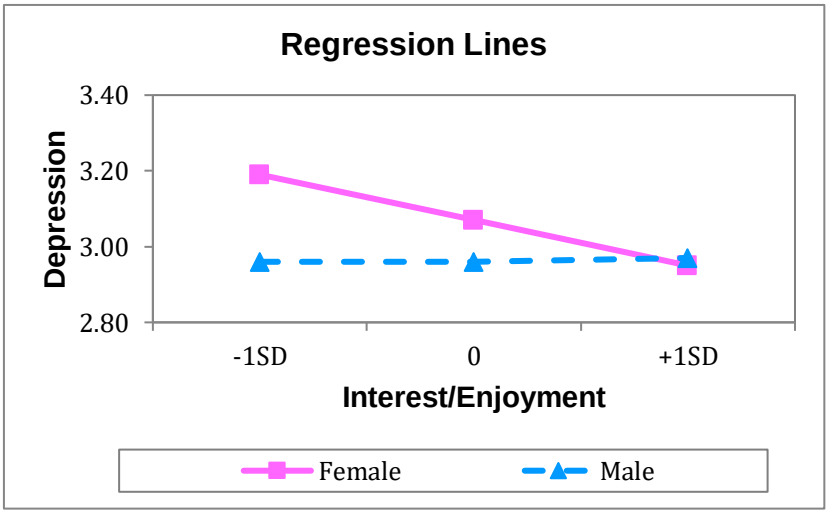

Figure 20. Females who engaged in physical activity for interest and/or enjoyment reported lower levels of depression.

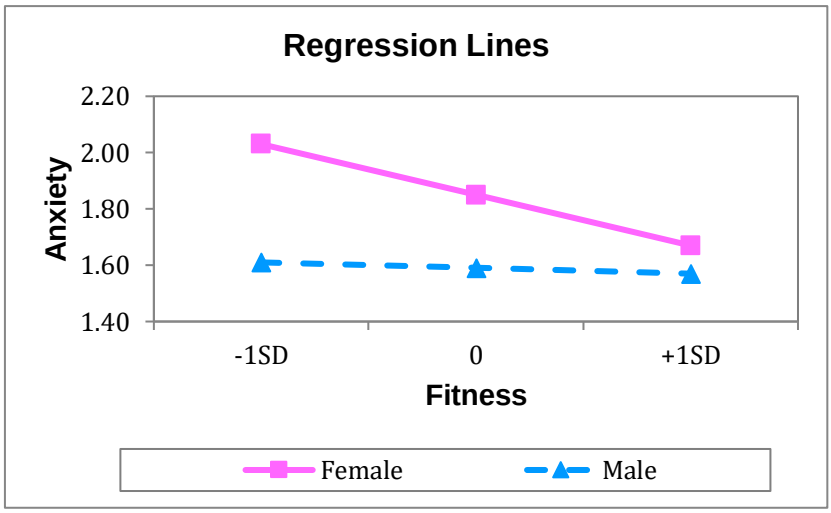

Figure 21. Females who engaged in physical activity to improve their fitness reported lower levels of anxiety.

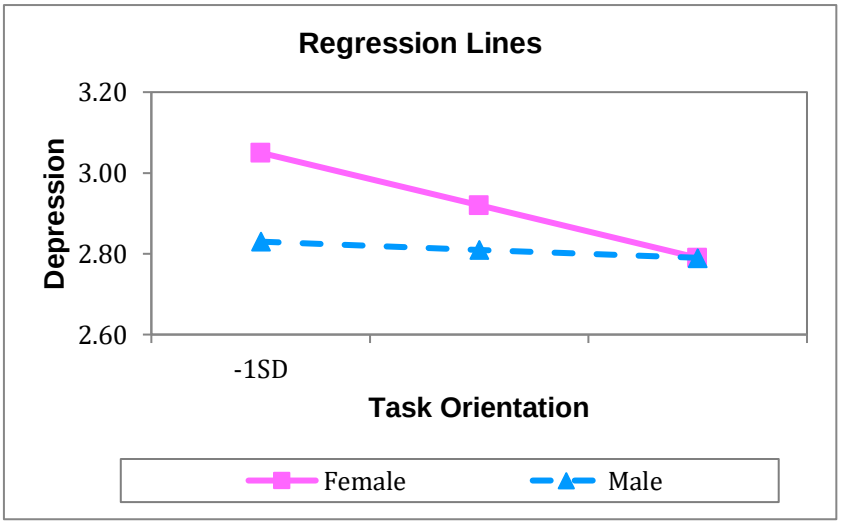

Figure 22. Females who reported feeling proud after mastering a new skill in sport reported lower levels of depression.

For males, anxiety was increased when they:

- Engaged in physical activity to improve their competence or for socialisation.
- Reported feeling proud after mastering a new skill in sport.

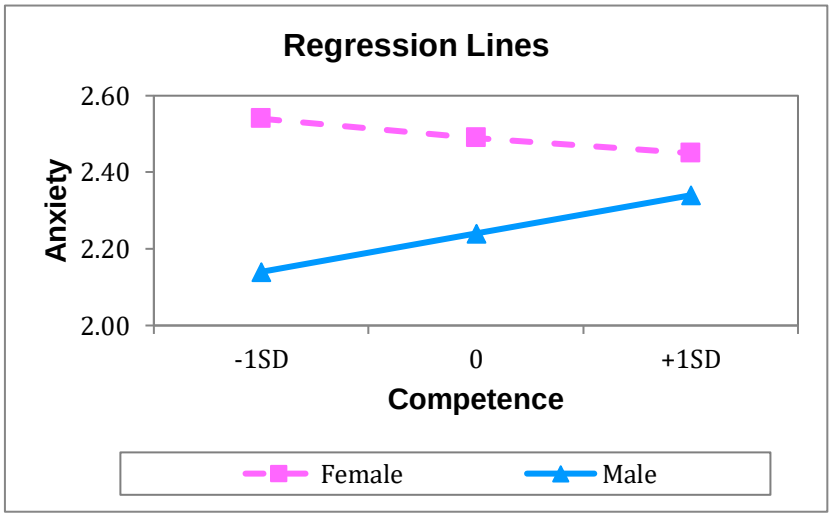

Figure 23. Males who reported engaging in physical activity to improve their competence reported higher levels of anxiety.

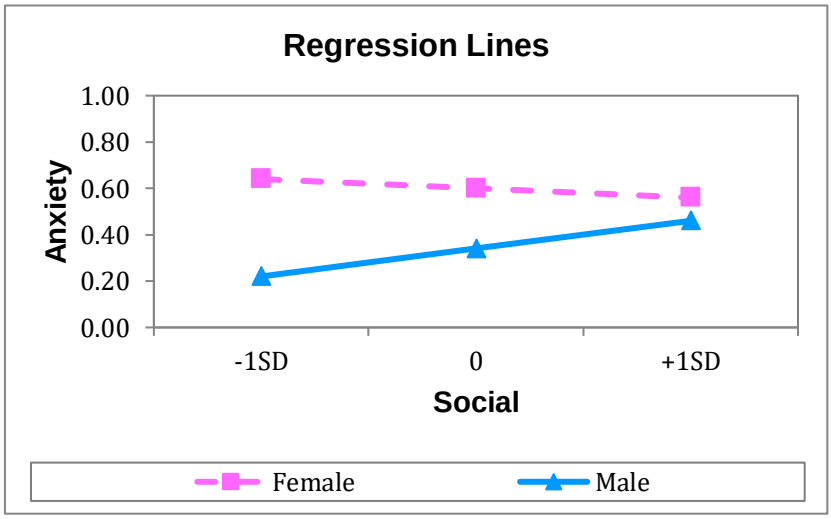

Figure 24. Males who reported engaging in physical activity for socialisation reported higher levels of anxiety.

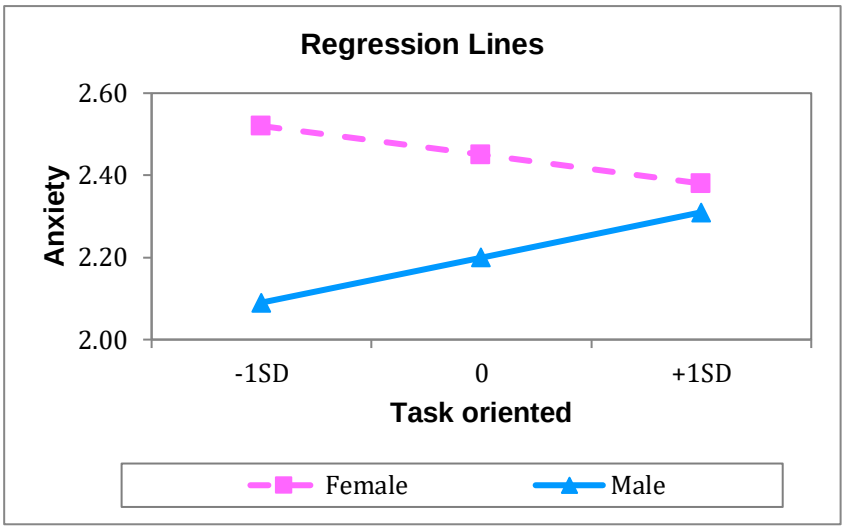

Figure 25. Males who reported feeling proud after mastering a new skill in sport reported higher levels of anxiety.

For students with a moderate intellectual disability, anxiety and depression increased when they:

- Engaged in physical activity for socialisation (specifically anxiety).
- Engaged in physical activity to improve their competence (specifically depression).
- Reported feeling proud after mastering a new skill in sport (specifically anxiety).

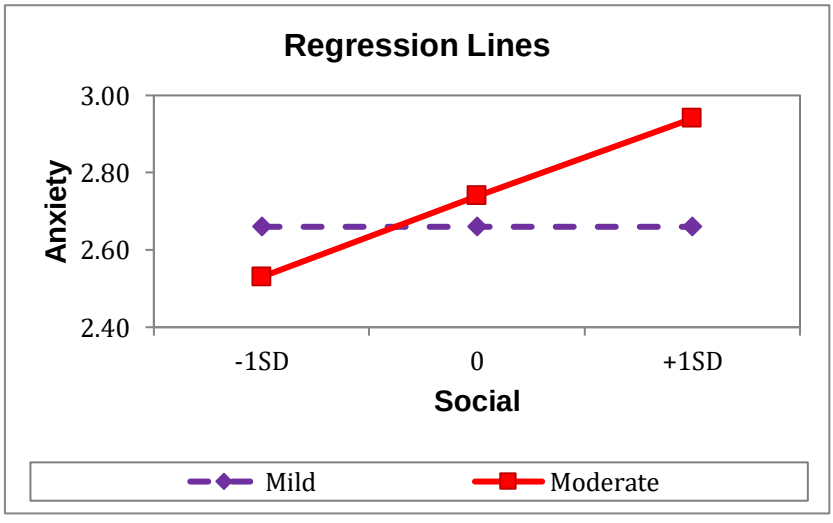

Figure 26. Students with a moderate intellectual disability who report engaging in physical activity for socialisation reported an increase in anxiety.

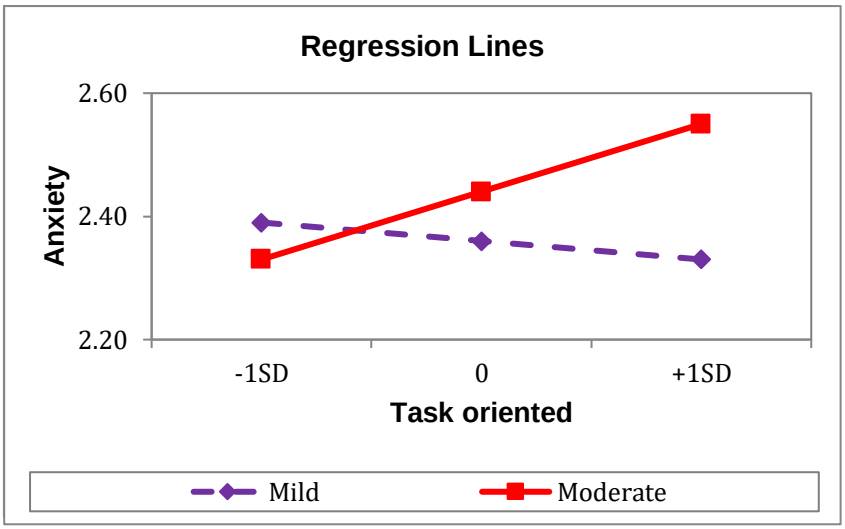

Figure 27. Students with a moderate intellectual disability who reported engaging in physical activity to improve their competence reported higher levels of depression.

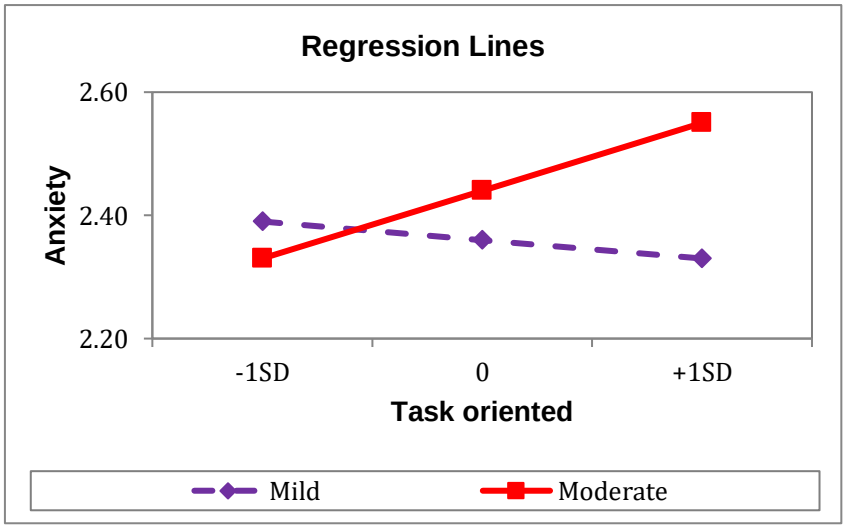

Figure 28. All students with a moderate intellectual disability who reported feeling proud after mastering a new skill in sport reported higher levels of anxiety.

For students with a mild intellectual disability, anxiety and depression decreased when they:

- Engaging in physical activity to improve their fitness (anxiety specifically).
- Felt proud after mastering a new skill in sport (depression specifically).

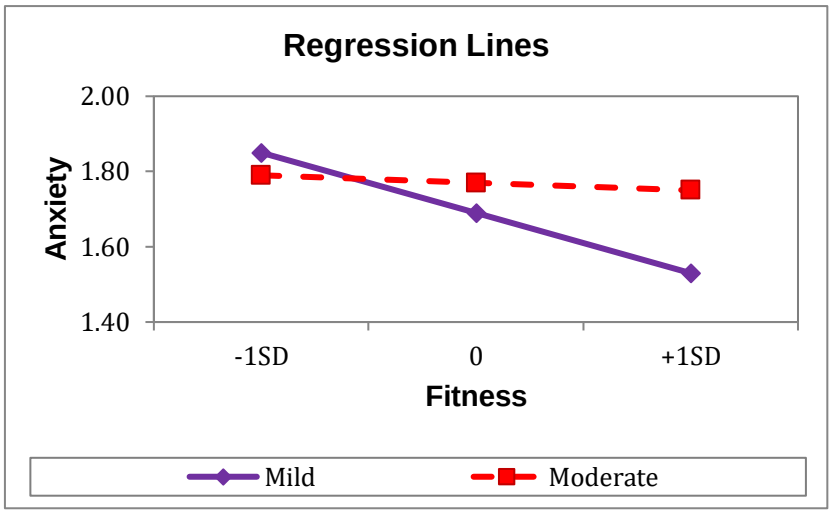

Figure 29. Students with a mild intellectual disability who reported engaging in physical activity to improve their fitness reported lower levels of anxiety.

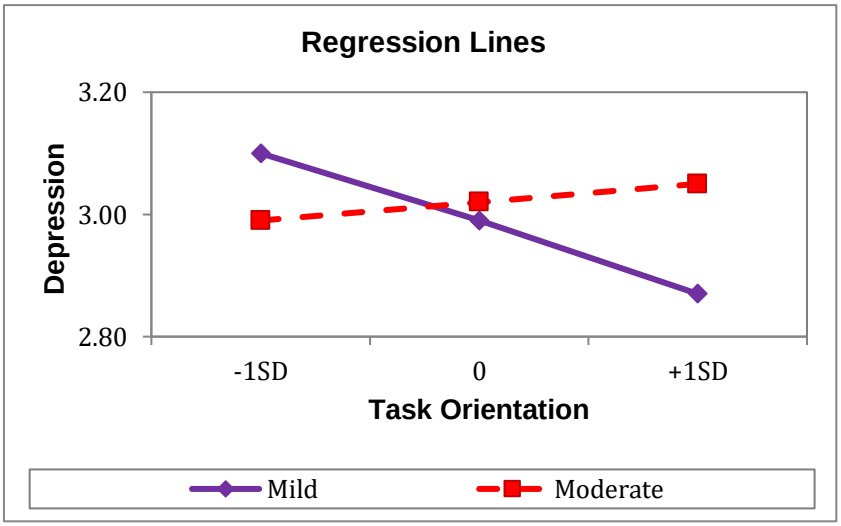

Figure 30. All students with a mild intellectual disability who reported feeling proud after mastering a new skill in sport reported lower levels of depression.

Overall, experiencing barriers to participate in sport was associated with higher levels of anxiety and depression.

Higher levels of anxiety and depression were also reported by students when they reported being unable to participate in sports due to various barriers including, financial, health, time restrictions, and disinterest. The relations between the barriers and anxiety were particularly prevalent for students with a moderate intellectual disability.

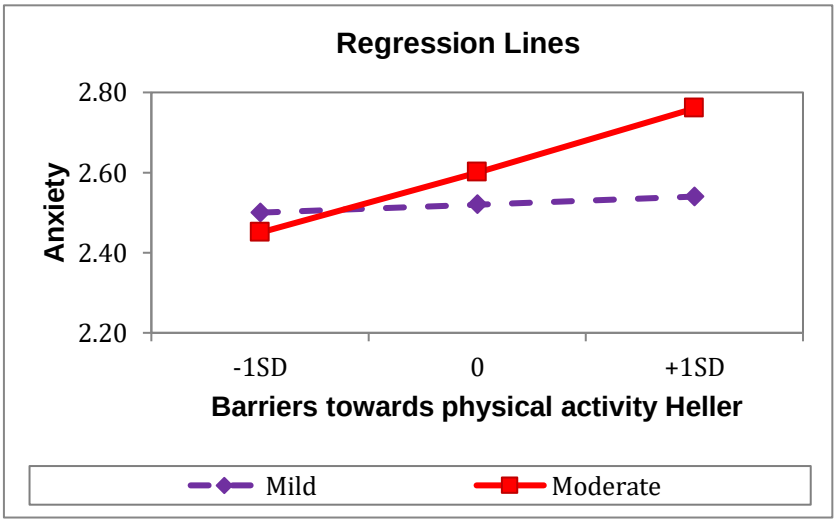

Figure 31. Students with a moderate intellectual disability who reported that barriers are preventing them from participating in physical activity reported higher levels of anxiety.

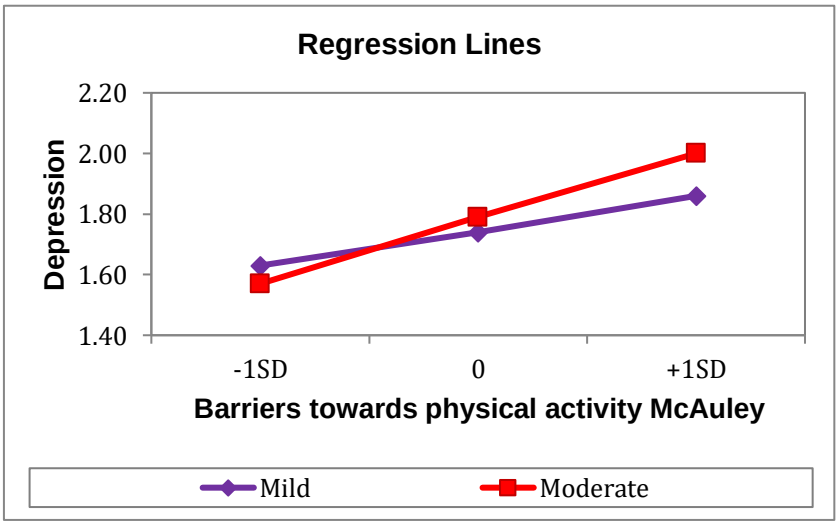

Figure 32. Students with a moderate intellectual disability who reported that barriers are preventing them from participating in physical activity reported higher levels of depression.

Overall, motivation to participate in sport was associated with physical ability, especially for females.

Those females who reported that they engaged in physical activity to improve their fitness were more flexible than their peers.

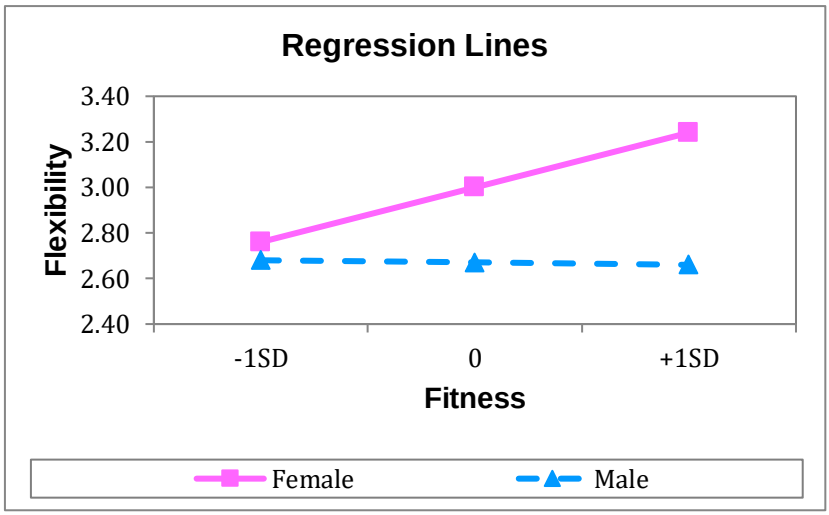

Figure 33. Females who engaged in physical activity to improve their fitness were more flexible.

Recommendations

The findings are based on a unique Australian longitudinal study which asked youth with intellectual disabilities in secondary school, and their parents and teachers, to complete a questionnaire each year, over three consecutive years. Questionnaires enquired about student experiences within the classroom and wider school community, student relationships with their peers and teachers, student behaviour and psychosocial wellbeing and involvement in physical activities. Students also completed physical assessments that measured students' physical fitness and wellbeing each year.

Importantly, the self-reports of the youth with intellectual disabilities were found to be largely reliable thus providing confidence in the interpretation of the findings presented. To date, research has largely been unable to collect reliable self-reports from youth with intellectual disabilities, making the results of this study invaluable in advancing our understanding of their perceptions and self-reported experiences.

Schools, teachers and parents play a critical role in fostering and supporting positive psychosocial, physical and behavioural wellbeing for youth with intellectual disabilities. The findings presented in this report provide recommendations on how best to cultivate relationships, experiences and environments to optimise outcomes for youth with intellectual disabilities.

Strategies to reduce *anxiety* for youth with intellectual disabilities.

Anxiety appears to be largely related to one's interactions and relationships with others in the learning environment – more specifically, the perceived safety of the school environment and the warmth of relationships with peers (which is developmentally typical for adolescents).

Anxiety may be reduced if schools focus on increasing youth's sense of safety (that of their own and their belongings) and minimising their experience of non-physical aggression from others. Anxiety may also be reduced by reducing conflict with the teacher. Unexpectedly, anxiety was reported as higher for youth who reported a warm relationship with their teacher. The nature of this finding requires further investigation. It could be hypothesised, however, that peer relationships are more important drivers of anxiety for youth with intellectual disabilities. This is particularly the case for students with a moderate intellectual disability, and for males, where loneliness in the class was associated with heightened anxiety.

Strategies to reduce *depression* for youth with intellectual disabilities.

Findings indicate that strategies to reduce anxiety may also be appropriate to reduce depression for youth with intellectual disabilities. Similarly, depression may be reduced if schools focus on increasing youth's sense of safety (that of their own and their belongings) and minimising their experience of non-physical aggression from others. Depression may also be reduced by reducing conflict with the teacher. Surprisingly, as for anxiety, depression was reported as higher for youth who reported a warm

relationship with their teacher. Finally, depression may be reduced when students feel connected to the school and experience positive peer relationships.

The importance of positive relationships was more salient for some groups of students, with depression for females reducing when peer relationships were positive and depression for males reducing when they did not feel lonely in class. Similarly, for youth with a moderate intellectual disability, depression reduced when they did not feel lonely in class, but unexpectedly increased when there was a positive relationship with a teacher.

Strategies to *increase prosocial behaviour and decrease problematic behaviour and delinquency* for youth with intellectual disabilities.

The results of the investigation into factors associated with student behaviour appear complex and mixed, thus warranting further attention. Nonetheless, the key recommendations that arise place the student's sense of safety and their experience with non-physical and physical aggression from others, and teacher conflict, as main associates of student behaviour.

When students did not feel safe at school and experienced non-physical or physical aggression from others, their problematic behaviour and delinquency increased. For some students, however, as their fear increased so too did their reported prosocial behaviour. This finding could signal that students employ different coping strategies to manage threatening school environments - some may be prone to react negatively while others attempt to please and be helpful to those individuals that they fear. Similarly, an interesting pattern of findings emerged for females where prosocial behaviour increased when they perceived relationships with peers and teachers as more negative. Could it be that skills in helping, sharing and being attentive to others are not enough to result in positive peer and teacher relationships? Could it be that these females were trying their best to enact these skills in order to form positive relationships but without success to date?

Higher teacher-student conflict was associated with higher problematic behaviour and higher delinquency. With high teacher conflict cultivating undesirable student behaviour and anxiety and depression, schools must seek to reduce teacher-student conflict as a priority.

Capitalising on the role of physical activity to increase psychosocial and physical wellbeing.

Findings highlight the influence of one's motivation to participate in physical activity on psychosocial and physical wellbeing. In encouraging students to participate in physical activity emphasis should be placed largely on motivating students to a) increase their fitness; b) experience a sense of pride for applying themselves and learning new skills. Interestingly, males reported increased anxiety when motivated to participate in the pursuit of competence, socialisation or sense of pride in accomplishment - perhaps due to the pressure to succeed.

Finally, schools should assist to reduce barriers to participation in physical activity, especially for students with a moderate intellectual disability, in order to reduce anxiety and depression for these students.

In summary, the findings provide tangible advice to schools on how best to apply their limited resources in tackling the critical issues of psychosocial and physical wellbeing for youth with intellectual disabilities. Results consistently highlight the importance of schools ensuring their policies and practices protect youth with intellectual disabilities from physical and non-physical aggression from others and teacher conflict, and heighten their sense of safety in order to boost psychosocial wellbeing. It appears that positive peer relations are paramount drivers of psychosocial wellbeing for youth with intellectual disabilities, especially for those with a moderate intellectual disability. This result is not surprising as the importance of peer relations in adolescence is well documented. How best to encourage positive peer relationships within schools for youth with intellectual disabilities, however, warrants further investigation and testing of solutions. Finally, schools are advised to consider how they encourage students with intellectual disabilities to participate in physical activity, with varied strategies for females and males, in order to boost psychosocial and physical wellbeing. Together, the researchers hope that these prevention guidelines enacted within the school environment during adolescence can bolster the future psychosocial and physical wellbeing of a group of highly disadvantaged youth – those with intellectual disabilities.

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Appendix A. Reliability values of indicator and outcome factors.

Table 1.

Reliability values of indicator and outcome factors

Predictors	Factor	Number of Items	Cronbach Alpha Value
School Climate	School Bonding Climate	3	.74
	Student Relational Climate	5	.87
	Teacher-Student Relational Climate	6	.88
	Student Safety Climate - Fear	9	.82
	Educational Climate	7	.87
Teacher	Warmth	10	.90
	Lack of Conflict	7	.83
	Responsiveness	7	.80
	Autonomy	3	.70
	Demandingness	2	.55
School Experiences	Belonging to school	4	.84
	Students loneliness	8	.79
	Major Victimization	5	.88
	Minor Victimization	12	.93
Motives for Physical Activity	Interest/Enjoyment	3	.86
	Competence	3	.77
	Appearance	3	.81
	Fitness	3	.80
	Social	3	.77
Barriers Towards Physical Activity	Heller	10	.86
	McAuley	11	.89
	Authors	7	.85
Ego Orientation		5	.79
Task Orientation		7	.90
Anxiety	Worries	10	.75
	Specific Fears	9	.82
	Physiological Symptoms	8	.85
Depression		21	.83
Prosocial		4	.78
Problematic behaviour		8	.82
Delinquency		5	.78
Global Self Concept		2	.65

Appendix B. Validity as supported by Exploratory and Confirmatory Factor Analyses.

Table 1.
Results of Measurement Invariance for *School Bonding Climate Scale* from *School Loneliness Scale*

	χ^2	df	CFI	TLI	RMSEA	$\lvert\Delta\chi^2\rvert$	$\lvert\Delta df\rvert$	|P.value|	|ΔTLI|	|ΔRMSEA|
a. Overtime										
Configural	14.97	15	1.00	1.00	0.00					
Metric	28.22	21	0.98	0.97	0.04	13.71	6	0.03	0.03	0.04
Scalar	33.35	27	0.98	0.98	0.03	4.50	6		0.01	0.01
b. Gender										
Configural	43.44	30	0.97	0.92	0.06					
Metric	39.81	36	0.99	0.98	0.03	0.48	6	1.00	0.06	0.03
Scalar	43.62	42	1.00	0.99	0.02	3.63	6	0.73	0.01	0.01
c. ID Level										
Configural	58.95	32	0.93	0.84	0.09					
Metric	57.64	38	0.95	0.90	0.07	1.86	6	0.93	0.06	0.02
Scalar	72.77	44	0.92	0.88	0.08	15.52	6	0.02	0.02	0.01

Note. χ^2= Chi-square; df = degrees of freedom; CFI = comparative fit index; TLI = Tucker-Lewis index; RMSEA = root mean square of approximation; $\Delta\chi^2$ = difference in the χ^2 between nested models; Δdf = difference in the df between nested models; P.value = Significance Level; ΔTLI = difference in the TLI between nested models; ΔRMSEA = difference in the RMSEA between nested models; |. | = absolute value.

Table 2.

Results of Measurement Invariance for *Students Relational Climate Scale*

	χ^2	df	CFI	TLI	RMSEA	$\lvert\Delta\chi^2\rvert$	$\lvert\Delta df\rvert$	|P.value|	|ΔTLI|	|ΔRMSEA|
a. Overtime										
Configural	77.14	72	1.00	0.99	0.02					
Metric	89.23	82	0.99	0.99	0.02	12.21	10	0.27	0.00	0.00
Scalar	95.91	92	1.00	1.00	0.01	6.24	10	0.79	0.01	0.01
b. Gender										
Configural	157.33	144	0.99	0.98	0.03					
Metric	158.04	156	1.00	1.00	0.01	2.92	12	1.00	0.02	0.02
Scalar	167.70	168	1.00	1.00	0.00	9.50	12	0.66	0.00	0.00
c. ID Level										
Configural	181.80	144	0.96	0.94	0.05					
Metric	202.15	156	0.95	0.93	0.05	20.36	12	0.06	0.01	0.00
Scalar	213.31	168	0.95	0.94	0.05	11.28	12	0.50	0.01	0.00

Note. χ^2= Chi-square; df = degrees of freedom; CFI = comparative fit index; TLI = Tucker-Lewis index; RMSEA = root mean square of approximation; $\Delta\chi^2$ = difference in the χ^2 between nested models; Δdf = difference in the df between nested models; P.value = Significance Level; ΔTLI = difference in the TLI between nested models; ΔRMSEA = difference in the RMSEA between nested models; |. | = absolute value.

Table 3.

Results of Measurement Invariance for *Teacher-Student Relational Climate Scale*

	χ^2	df	CFI	TLI	RMSEA	$\lvert\Delta\chi^2\rvert$	$\lvert\Delta df\rvert$	|P.value|	$\lvert\Delta TLI\rvert$	$\lvert\Delta RMSEA\rvert$
a. Overtime										
Configural	134.93	114	0.99	0.98	0.03					
Metric	144.92	126	0.99	0.98	0.03	10.25	12	0.59	0.00	0.00
Scalar	155.17	138	0.99	0.99	0.02	10.04	12	0.61	0.01	0.01
b. Gender										
Configural	338.08	228	0.93	0.91	0.06					
Metric	358.96	243	0.93	0.91	0.06	20.96	15	0.14	0.00	0.00
Scalar	374.20	258	0.93	0.92	0.06	14.56	15	0.48	0.01	0.00
c. ID Level										
Configural	380.85	228	0.89	0.86	0.08					
Metric	401.31	243	0.89	0.86	0.08	21.22	15	0.13	0.00	0.00
Scalar	421.64	258	0.09	0.87	0.08	20.31	15	0.16	0.01	0.00

Note. χ^2= Chi-square; df = degrees of freedom; CFI = comparative fit index; TLI = Tucker-Lewis index; RMSEA = root mean square of approximation; $\Delta\chi^2$ = difference in the χ^2 between nested models; Δdf = difference in the df between nested models; P.value = Significance Level; ΔTLI = difference in the TLI between nested models; ΔRMSEA = difference in the RMSEA between nested models; |. | = absolute value.

Table 4.

Results of Measurement Invariance for *Students Safety Climate Scale*

	χ^2	df	CFI	TLI	RMSEA	$\lvert\Delta\chi^2\rvert$	$\lvert\Delta df\rvert$	|P.value|	|ΔTLI|	|ΔRMSEA|
a. Overtime										
Configural	457.37	291	0.92	0.90	0.05					
Metric	478.76	309	0.92	0.91	0.05	22.31	18	0.22	0.01	0.00
Scalar	501.20	327	0.92	0.91	0.05	21.89	18	0.24	0.00	0.00
b. Gender										
Configural	1155.46	582	0.78	0.74	0.09					
Metric	1170.64	606	0.79	0.75	0.09	23.81	24	0.47	0.01	0.00
Scalar	1189.338	630	0.79	0.77	0.09	19.26	24	0.74	0.02	0.00
c. ID Level										
Configural	1024.54	582	0.79	0.75	0.08					
Metric	1053.46	606	0.79	0.75	0.08	32.49	24	0.12	0.00	0.00
Scalar	1146.62	630	0.75	0.73	0.09	92.65	24	0.00	0.02	0.01

Note. χ^2= Chi-square; df = degrees of freedom; CFI = comparative fit index; TLI = Tucker-Lewis index; RMSEA = root mean square of approximation; $\Delta\chi^2$ = difference in the χ^2 between nested models; Δdf = difference in the df between nested models; P.value = Significance Level; ΔTLI = difference in the TLI between nested models; ΔRMSEA = difference in the RMSEA between nested models; |. | = absolute value.

Table 5.

Results of Measurement Invariance for *Educational Climate Scale*

	χ^2	df	CFI	TLI	RMSEA	$\lvert\Delta\chi^2\rvert$	$\lvert\Delta df\rvert$	|P.value|	$\lvert\Delta TLI\rvert$	$\lvert\Delta RMSEA\rvert$
a. Overtime Doesn't work										
Configural	338.05	165	0.88	0.84	0.07					
Metric	323.63	175	0.89	0.87	0.06				0.03	0.01
Scalar	341.14	188	0.89	0.88	0.06				0.01	0.00
b. Gender										
Configural	725.45	330	0.78	0.72	0.10					
Metric	728.00	348	0.79	0.75	0.09	13.02	18	0.79	0.03	0.01
Scalar	742.51	366	0.79	0.76	0.09	10.21	18	0.92	0.01	0.00
c. ID Level										
Configural	761.79	330	0.74	0.66	0.11					
Metric	768.69	348	0.74	0.69	0.10	16.17	18	0.58	0.03	0.01
Scalar	796.89	366	0.74	0.70	0.10	27.69	18	0.07	0.01	0.00

Note. χ^2= Chi-square; df = degrees of freedom; CFI = comparative fit index; TLI = Tucker-Lewis index; RMSEA = root mean square of approximation; $\Delta\chi^2$ = difference in the χ^2 between nested models; Δdf = difference in the df between nested models; P.value = Significance Level; ΔTLI = difference in the TLI between nested models; ΔRMSEA = difference in the RMSEA between nested models; |. | = absolute value.

Table 6.

Results of Measurement Invariance for *Warmth* from *Teacher-Student Relationship Scale*

	χ^2	df	CFI	TLI	RMSEA	$\lvert\Delta\chi^2\rvert$	$\lvert\Delta df\rvert$	|P.value|	|ΔTLI|	|ΔRMSEA|
a. Overtime										
Configural	457.37	291	0.92	0.90	0.05					
Metric	478.76	309	0.92	0.91	0.05	22.31	18	0.22	0.01	0.00
Scalar	501.20	327	0.92	0.91	0.05	21.89	18	0.24	0.00	0.00
b. Gender										
Configural	1155.46	582	0.78	0.74	0.09					
Metric	1170.64	606	0.79	0.75	0.09	23.81	24	0.47	0.01	0.00
Scalar	1189.34	630	0.79	0.77	0.09	19.26	24	0.74	0.02	0.00
c. ID Level										
Configural	1024.54	582	0.79	0.75	0.08					
Metric	1053.46	606	0.79	0.75	0.08	32.49	24	0.12	0.00	0.00
Scalar	1146.62	630	0.75	0.73	0.09	92.65	24	0.00	0.02	0.01

Note. χ^2= Chi-square; df = degrees of freedom; CFI = comparative fit index; TLI = Tucker-Lewis index; RMSEA = root mean square of approximation; $\Delta\chi^2$ = difference in the χ^2 between nested models; Δdf = difference in the df between nested models; P.value = Significance Level; ΔTLI = difference in the TLI between nested models; ΔRMSEA = difference in the RMSEA between nested models; |. | = absolute value.

Table 7.

Results of Measurement Invariance for *Conflicts* from *Teacher-Student Relationship Scale*

	χ^2	df	CFI	TLI	RMSEA	$\lvert\Delta\chi^2\rvert$	$\lvert\Delta df\rvert$	|P.value|	|ΔTLI|	|ΔRMSEA|
a. Overtime										
Configural	63.50	38	0.96	0.94	0.05					
Metric	74.44	46	0.96	0.94	0.05	10.85	8	0.21	0.00	0.00
Scalar	81.59	54	0.96	0.95	0.05	6.18	8	0.63	0.01	0.00
b. Gender										
Configural	121.36	76	0.94	0.90	0.07					
Metric	125.46	85	0.95	0.92	0.06	5.96	9	0.74	0.02	0.01
Scalar	134.84	94	0.95	0.93	0.06	8.56	9	0.48	0.01	0.00
c. ID Level										
Configural	138.60	76	0.92	0.86	0.09					
Metric	161.69	85	0.90	0.84	0.09	22.49	9	0.01	0.02	0.00
Scalar	172.14	94	0.90	0.86	0.09	10.06	9	0.35	0.02	0.00

Note. χ^2= Chi-square; df = degrees of freedom; CFI = comparative fit index; TLI = Tucker-Lewis index; RMSEA = root mean square of approximation; $\Delta\chi^2$ = difference in the χ^2 between nested models; Δdf = difference in the df between nested models; P.value = Significance Level; ΔTLI = difference in the TLI between nested models; ΔRMSEA = difference in the RMSEA between nested models; |. | = absolute value.

Table 8.

Results of Measurement Invariance for *Responsiveness* from *Teacher-Student Style*

	χ^2	df	CFI	TLI	RMSEA	$\lvert\Delta\chi^2\rvert$	$\lvert\Delta df\rvert$	|P.value|	|ΔTLI|	|ΔRMSEA|
a. Overtime										
Configural	63.50	38	0.96	0.94	0.05					
Metric	74.44	46	0.96	0.94	0.05	10.85	8	0.21	0.00	0.00
Scalar	81.59	54	0.96	0.95	0.04	6.18	8	0.63	0.01	0.01
b. Gender										
Configural	121.36	76	0.94	0.90	0.07					
Metric	125.46	85	0.95	0.92	0.05	5.96	9	0.74	0.02	0.02
Scalar	134.84	94	0.95	0.93	0.06	8.56	9	0.48	0.01	0.01
c. ID Level										
Configural	138.60	76	0.92	0.86	0.09					
Metric	161.69	85	0.90	0.84	0.09	22.49	9	0.01	0.02	0.00
Scalar	172.14	94	0.90	0.86	0.09	10.06	9	0.35	0.02	0.00

Note. χ^2= Chi-square; df = degrees of freedom; CFI = comparative fit index; TLI = Tucker-Lewis index; RMSEA = root mean square of approximation; $\Delta\chi^2$ = difference in the χ^2 between nested models; Δdf = difference in the df between nested models; P.value = Significance Level; ΔTLI = difference in the TLI between nested models; ΔRMSEA = difference in the RMSEA between nested models; |. | = absolute value.

Table 9.

Results of Measurement Invariance for *Autonomy* from *Teacher-Student Style*

	χ^2	df	CFI	TLI	RMSEA	$\|\Delta\chi^2\|$	$\|\Delta df\|$	|P.value|	$\|\Delta TLI\|$	$\|\Delta RMSEA\|$
a. Overtime One time point										
Configural										
Metric										
Scalar										
b. Gender										
Configural	0.00	0	1.00	1.00	0.00					
Metric	3.79	2	0.94	0.81	0.13	3.79	2	0.15	0.19	0.13
Scalar	6.65	4	0.91	0.86	0.11	2.90	2	0.23	0.05	0.02
c. ID Level										
Configural	0.00	0	1.00	1.00	0.00					
Metric	4.90	2	0.94	0.81	0.17	4.90	2	0.09	0.19	0.17
Scalar	9.16	4	0.89	0.83	0.16	4.31	2	0.12	0.02	0.16

Note. χ^2= Chi-square; df = degrees of freedom; CFI = comparative fit index; TLI = Tucker-Lewis index; RMSEA = root mean square of approximation; $\Delta\chi^2$ = difference in the χ^2 between nested models; Δdf = difference in the df between nested models; P.value = Significance Level; ΔTLI = difference in the TLI between nested models; ΔRMSEA = difference in the RMSEA between nested models; |. | = absolute value.

Table 10.

Results of Measurement Invariance for *Demandingness* from *Teacher-Student Style*

	χ^2	df	CFI	TLI	RMSEA	$\lvert\Delta\chi^2\rvert$	$\lvert\Delta df\rvert$	|P.value|	|ΔTLI|	|ΔRMSEA|
a. Overtime										
Configural	50.98	37	0.98	0.97	0.04					
Metric	62.68	45	0.98	0.96	0.04	11.75	8	0.16	0.01	0.00
Scalar	69.73	53	0.98	0.97	0.04	6.33	8	0.61	0.01	0.00
b. Gender										
Configural	110.07	74	0.95	0.92	0.06					
Metric	115.43	83	0.96	0.93	0.06	6.79	9	0.66	0.01	0.00
Scalar	124.23	92	0.96	0.94	0.05	8.10	9	0.52	0.01	0.01
c. ID Level										
Configural	124.06	74	0.93	0.88	0.08					
Metric	148.42	83	0.91	0.86	0.08	23.69	9	0.00	0.02	0.00
Scalar	162.54	92	0.91	0.87	0.08	13.86	9	0.13	0.01	0.00

Note. χ^2= Chi-square; df = degrees of freedom; CFI = comparative fit index; TLI = Tucker-Lewis index; RMSEA = root mean square of approximation; $\Delta\chi^2$ = difference in the χ^2 between nested models; Δdf = difference in the df between nested models; P.value = Significance Level; ΔTLI = difference in the TLI between nested models; ΔRMSEA = difference in the RMSEA between nested models; |. | = absolute value.

Table 11.

Results of Measurement Invariance for *Students Feelings of Belonging to School* from *School Loneliness Scale*

	χ^2	df	CFI	TLI	RMSEA	$\lvert\Delta\chi^2\rvert$	$\lvert\Delta df\rvert$	|P.value|	|ΔTLI|	|ΔRMSEA|
a. Overtime										
Configural	50.98	37	0.98	0.97	0.04					
Metric	62.68	45	0.98	0.96	0.04	11.75	8	0.16	0.01	0.00
Scalar	69.73	53	0.98	0.97	0.04	6.33	8	0.61	0.01	0.00
b. Gender										
Configural	110.07	74	0.95	0.92	0.06					
Metric	115.43	83	0.96	0.93	0.06	6.79	9	0.66	0.01	0.00
Scalar	124.23	92	0.96	0.94	0.05	8.10	9	0.52	0.01	0.01
c. ID Level										
Configural	124.06	74	0.93	0.88	0.08					
Metric	148.42	83	0.91	0.86	0.08	23.69	9	0.00	0.02	0.00
Scalar	162.54	92	0.91	0.87	0.08	13.86	9	0.13	0.01	0.00

Note. χ^2= Chi-square; df = degrees of freedom; CFI = comparative fit index; TLI = Tucker-Lewis index; RMSEA = root mean square of approximation; $\Delta\chi^2$ = difference in the χ^2 between nested models; Δdf = difference in the df between nested models; P.value = Significance Level; ΔTLI = difference in the TLI between nested models; ΔRMSEA = difference in the RMSEA between nested models; |. | = absolute value.

Table 12.

Results of Measurement Invariance for *Craven et al.* from *School Loneliness Scale*

	χ^2	df	CFI	TLI	RMSEA	$\lvert\Delta\chi^2\rvert$	$\lvert\Delta df\rvert$	|P.value|	|ΔTLI|	|ΔRMSEA|
a. Overtime										
Configural	144.33	113	0.97	0.95	0.03					
Metric	160.15	125	0.96	0.95	0.03	15.81	12	0.20	0.00	0.00
Scalar	173.48	137	0.96	0.96	0.03	12.86	12	0.38	0.01	0.00
b. Gender										
Configural	325.19	226	0.91	0.87	0.06					
Metric	337.87	241	0.91	0.88	0.06	14.71	15	0.47	0.01	0.00
Scalar	365.27	256	0.90	0.88	0.06	28.06	15	0.02	0.00	0.00
c. ID Level										
Configural	339.63	226	0.89	0.85	0.07					
Metric	354.55	241	0.89	0.86	0.06	17.50	15	0.29	0.01	0.01
Scalar	378.22	256	0.88	0.85	0.07	23.74	15	0.07	0.01	0.01

Note. χ^2= Chi-square; df = degrees of freedom; CFI = comparative fit index; TLI = Tucker-Lewis index; RMSEA = root mean square of approximation; $\Delta\chi^2$ = difference in the χ^2 between nested models; Δdf = difference in the df between nested models; P.value = Significance Level; ΔTLI = difference in the TLI between nested models; ΔRMSEA = difference in the RMSEA between nested models; |. | = absolute value.

Table 13.

Results of Measurement Invariance for *Major Victimization Scale*

	χ^2	df	CFI	TLI	RMSEA	$\lvert\Delta\chi^2\rvert$	$\lvert\Delta df\rvert$	|P.value|	$\lvert\Delta TLI\rvert$	$\lvert\Delta RMSEA\rvert$
a. Overtime										
Configural	77.95	77	1.00	1.00	0.01					
Metric	98.35	87	0.98	0.98	0.02	16.89	10	0.08	0.02	0.01
Scalar	118.56	97	0.97	0.96	0.03	28.35	10	0.00	0.02	0.01
b. Gender										
Configural	381.25	154	0.77	0.69	0.11					
Metric	354.44	166	0.81	0.76	0.10	7.49	12	0.82	0.07	0.01
Scalar	367.58	178	0.81	0.77	0.09	8.52	12	0.74	.01	0.01
c. ID Level										
Configural	318.80	154	0.81	0.74	0.10					
Metric	306.18	166	0.84	0.80	0.09	6.67	12	0.88	0.06	0.01
Scalar	317.58	178	0.84	0.81	0.08	7.35	12	0.83	0.01	0.01

Note. χ^2= Chi-square; df = degrees of freedom; CFI = comparative fit index; TLI = Tucker-Lewis index; RMSEA = root mean square of approximation; $\Delta\chi^2$ = difference in the χ^2 between nested models; Δdf = difference in the df between nested models; P.value = Significance Level; ΔTLI = difference in the TLI between nested models; ΔRMSEA = difference in the RMSEA between nested models; |. | = absolute value.

Table 14.

Results of Measurement Invariance for *Minor Victimization Scale*

	χ^2	df	CFI	TLI	RMSEA	$\lvert\Delta\chi^2\rvert$	$\lvert\Delta df\rvert$	|P.value|	$\lvert\Delta TLI\rvert$	$\lvert\Delta RMSEA\rvert$
a. Overtime										
Configural	1018.40	564	0.83	0.81	0.06					
Metric	1046.98	588	0.83	0.82	0.06	30.90	24	0.16	0.01	0.00
Scalar	1084.83	612	0.82	0.82	0.06	35.85	24	0.06	0.00	0.00
b. Gender										
Configural										
Metric										
Scalar										
c. ID Level										
Configural	2857.12	1128	0.59	0.54	0.11					
Metric	2879.20	1161	0.59	0.56	0.11	40.90	33	0.16	0.02	0.00
Scalar	2919.83	1194	0.59	0.57	0.11	36.78	33	0.30	0.01	0.00

Note. χ^2= Chi-square; df = degrees of freedom; CFI = comparative fit index; TLI = Tucker-Lewis index; RMSEA = root mean square of approximation; $\Delta\chi^2$ = difference in the χ^2 between nested models; Δdf = difference in the df between nested models; P.value = Significance Level; ΔTLI = difference in the TLI between nested models; ΔRMSEA = difference in the RMSEA between nested models; |. | = absolute value.

Table 15.

Results of Measurement Invariance for *Interest/Enjoyment* from *Motives for Physical Activities Measure*

	χ^2	df	CFI	TLI	RMSEA	$\lvert\Delta\chi^2\rvert$	$\lvert\Delta df\rvert$	|P.value|	|ΔTLI|	|ΔRMSEA|
a. Overtime										
Configural	31.98	18	0.97	0.94	0.06					
Metric	39.50	24	0.97	0.95	0.05	7.98	6	0.24	0.01	0.01
Scalar	45.63	30	0.97	0.96	0.05	4.68	6	0.59	0.01	0.00
b. Gender										
Configural	84.14	36	0.93	0.85	0.11					
Metric	95.47	42	0.92	0.86	0.10	12.06	6	0.06	0.01	0.01
Scalar	108.22	48	0.91	0.86	0.10	12.85	6	0.05	0.00	0.00
c. ID Level										
Configural	68.53	36	0.94	0.87	0.09					
Metric	77.01	42	0.93	0.88	0.09	9.78	6	0.13	0.01	0.00
Scalar	85.37	48	0.93	0.89	0.08	7.41	6	0.28	0.01	0.00

Note. χ^2= Chi-square; df = degrees of freedom; CFI = comparative fit index; TLI = Tucker-Lewis index; RMSEA = root mean square of approximation; $\Delta\chi^2$ = difference in the χ^2 between nested models; Δdf = difference in the df between nested models; P.value = Significance Level; ΔTLI = difference in the TLI between nested models; ΔRMSEA = difference in the RMSEA between nested models; |. | = absolute value.

Table 16.

Results of Measurement Invariance for *Competence* from *Motives for Physical Activities Measure*

	χ^2	df	CFI	TLI	RMSEA	$\lvert\Delta\chi^2\rvert$	$\lvert\Delta df\rvert$	|P.value|	$\lvert\Delta TLI\rvert$	$\lvert\Delta RMSEA\rvert$
a. Overtime										
Configural	11.20	15	1.00	1.03	0.00					
Metric	18.10	21	1.00	1.02	0.00	6.77	6	0.34	0.01	0.00
Scalar	25.33	27	1.00	1.01	0.00	8.01	6	0.24	0.01	0.00
b. Gender										
Configural	37.82	30	0.98	0.94	0.05					
Metric	43.26	36	0.98	0.96	0.04	5.98	6	0.43	0.02	0.01
Scalar	55.76	42	0.96	0.93	0.05	14.40	6	0.03	0.03	0.01
c. ID Level										
Configural	55.00	30	0.93	0.83	0.09					
Metric	54.26	36	0.95	0.90	0.07	4.32	6	0.63	0.07	0.02
Scalar	57.59	42	0.96	0.93	0.06	2.68	6	0.85	0.03	0.01

Note. χ^2= Chi-square; df = degrees of freedom; CFI = comparative fit index; TLI = Tucker-Lewis index; RMSEA = root mean square of approximation; $\Delta\chi^2$ = difference in the χ^2 between nested models; Δdf = difference in the df between nested models; P.value = Significance Level; ΔTLI = difference in the TLI between nested models; ΔRMSEA = difference in the RMSEA between nested models; |. | = absolute value.

Table 17.

Results of Measurement Invariance for *Appearance* from *Motives for Physical Activities Measure*

	χ^2	df	CFI	TLI	RMSEA	$\lvert\Delta\chi^2\rvert$	$\lvert\Delta df\rvert$	|P.value|	$\lvert\Delta TLI\rvert$	$\lvert\Delta RMSEA\rvert$
a. Overtime										
Configural	23.98	18	0.98	0.97	0.04					
Metric	27.72	24	0.99	0.99	0.03	2.34	6	0.89	0.02	0.01
Scalar	35.86	30	0.98	0.98	0.03	8.59	6	0.20	0.01	0.00
b. Gender										
Configural	51.33	36	0.96	0.92	0.06					
Metric	55.24	42	0.97	0.94	0.05	4.14	6	0.66	0.02	0.01
Scalar	71.99	48	0.94	0.91	0.07	19.22	6	0.00	0.03	0.02
c. ID Level										
Configural	59.11	36	0.94	0.89	0.08					
Metric	61.63	42	0.95	0.92	0.07	2.64	6	0.85	0.03	0.01
Scalar	64.24	48	0.96	0.94	0.06	0.95	6	0.99	0.02	0.01

Note. χ^2= Chi-square; df = degrees of freedom; CFI = comparative fit index; TLI = Tucker-Lewis index; RMSEA = root mean square of approximation; $\Delta\chi^2$ = difference in the χ^2 between nested models; Δdf = difference in the df between nested models; P.value = Significance Level; ΔTLI = difference in the TLI between nested models; ΔRMSEA = difference in the RMSEA between nested models; |. | = absolute value.

Table 18.

Results of Measurement Invariance for *Fitness* from *Motives for Physical Activities Measure*

	χ^2	df	CFI	TLI	RMSEA	$\lvert\Delta\chi^2\rvert$	$\lvert\Delta df\rvert$	|P.value|	|ΔTLI|	|ΔRMSEA|
a. Overtime										
Configural	18.69	15	0.99	0.97	0.03					
Metric	24.79	21	0.99	0.98	0.03	6.42	6	0.38	0.01	0.00
Scalar	30.78	27	0.99	0.98	0.02	5.59	6	0.47	0.00	0.01
b. Gender										
Configural	59.16	30	0.93	0.82	0.09					
Metric	62.56	36	0.93	0.87	0.08	6.91	6	0.33	0.05	0.01
Scalar	63.82	42	0.95	0.91	0.07	1.25	6	0.97	0.04	0.01
c. ID Level										
Configural	53.58	32	0.95	0.89	0.08					
Metric	58.76	38	0.95	0.91	0.07	7.19	6	0.30	0.02	0.01
Scalar	75.22	44	0.93	0.88	0.08	18.06	6	0.01	0.03	0.01

Note. χ^2= Chi-square; df = degrees of freedom; CFI = comparative fit index; TLI = Tucker-Lewis index; RMSEA = root mean square of approximation; $\Delta\chi^2$ = difference in the χ^2 between nested models; Δdf = difference in the df between nested models; P.value = Significance Level; ΔTLI = difference in the TLI between nested models; ΔRMSEA = difference in the RMSEA between nested models; |. | = absolute value.

Table 19.

Results of Measurement Invariance for *Social* from *Motives for Physical Activities Measure*

	χ^2	df	CFI	TLI	RMSEA	$\lvert\Delta\chi^2\rvert$	$\lvert\Delta df\rvert$	|P.value|	|ΔTLI|	|ΔRMSEA|
a. Overtime										
Configural	22.60	18	0.98	0.97	0.03					
Metric	24.09	24	1.00	1.00	0.00	2.05	6	0.92	0.03	0.03
Scalar	31.40	30	1.00	0.99	0.01	8.01	6	0.24	0.01	0.01
b. Gender										
Configural	75.76	36	0.88	0.76	0.10					
Metric	67.93	42	0.92	0.87	0.07	3.42	6	0.75	0.11	0.03
Scalar	75.92	48	0.92	0.87	0.07	7.08	6	0.31	0.00	0.00
c. ID Level										
Configural	72.44	36	0.89	0.78	0.10					
Metric	63.37	42	0.93	0.89	0.07	1.81	6	0.94	0.11	0.03
Scalar	71.38	48	0.93	0.89	0.07	8.00	6	0.24	0.00	0.00

Note. χ^2= Chi-square; df = degrees of freedom; CFI = comparative fit index; TLI = Tucker-Lewis index; RMSEA = root mean square of approximation; $\Delta\chi^2$ = difference in the χ^2 between nested models; Δdf = difference in the df between nested models; P.value = Significance Level; ΔTLI = difference in the TLI between nested models; ΔRMSEA = difference in the RMSEA between nested models; |. | = absolute value.

Table 20.

Results of Measurement Invariance for *Heller et al. (BTPAS)*

	χ^2	df	CFI	TLI	RMSEA	$\lvert\Delta\chi^2\rvert$	$\lvert\Delta df\rvert$	|P.value|	$\lvert\Delta TLI\rvert$	$\lvert\Delta RMSEA\rvert$
a. Overtime										
Configural	510.73	368	0.91	0.89	0.04					
Metric	529.60	388	0.91	0.89	0.04	18.37	20	0.56	0.00	0.00
Scalar	546.63	408	0.91	0.90	0.04	15.27	20	0.76	0.01	0.00
b. Gender										
Configural	1356.87	736	0.70	0.65	0.08					
Metric	1365.62	763	0.71	0.67	0.08	21.01	27	0.79	0.02	0.00
Scalar	1398.85	790	0.71	0.68	0.08	32.18	27	0.23	0.01	0.00
c. ID Level										
Configural	1199.84	736	0.75	0.70	0.08					
Metric	1224.24	763	0.75	0.71	0.07	27.22	27	0.45	0.01	0.01
Scalar	1260.27	790	0.74	0.72	0.07	35.72	27	0.12	0.01	0.00

Note. χ^2= Chi-square; df = degrees of freedom; CFI = comparative fit index; TLI = Tucker-Lewis index; RMSEA = root mean square of approximation; $\Delta\chi^2$ = difference in the χ^2 between nested models; Δdf = difference in the df between nested models; P.value = Significance Level; ΔTLI = difference in the TLI between nested models; ΔRMSEA = difference in the RMSEA between nested models; |. | = absolute value.

Table 21.

Results of Measurement Invariance for *McAuley et al. (BTPAS)*

	χ^2	df	CFI	TLI	RMSEA	$\lvert\Delta\chi^2\rvert$	$\lvert\Delta df\rvert$	|P.value|	$\lvert\Delta TLI\rvert$	$\lvert\Delta RMSEA\rvert$
a. Overtime										
Configural	575.09	454	0.94	0.92	0.03					
Metric	601.73	476	0.93	0.93	0.03	26.26	22	0.24	0.01	0.00
Scalar	621.12	498	0.94	0.93	0.03	17.37	22	0.74	0.00	0.00
b. Gender										
Configural	1787.10	908	0.70	0.65	0.09					
Metric	1824.82	938	0.69	0.65	0.09	41.79	30	0.07	0.00	0.00
Scalar	1858.80	968	0.69	0.66	0.09	30.93	30	0.42	0.01	0.00
c. ID Level										
Configural	1713.35	908	0.70	0.65	0.09					
Metric	1751.92	938	0.69	0.65	0.09	38.96	30	0.13	0.00	0.00
Scalar	1794.38	968	0.69	0.66	0.09	41.16	30	0.08	0.01	0.00

Note. χ^2= Chi-square; df = degrees of freedom; CFI = comparative fit index; TLI = Tucker-Lewis index; RMSEA = root mean square of approximation; $\Delta\chi^2$ = difference in the χ^2 between nested models; Δdf = difference in the df between nested models; P.value = Significance Level; ΔTLI = difference in the TLI between nested models; ΔRMSEA = difference in the RMSEA between nested models; |. | = absolute value.

Table 22.

Results of Measurement Invariance for *Ego orientation (TEO)*

	χ^2	df	CFI	TLI	RMSEA	$\lvert\Delta\chi^2\rvert$	$\lvert\Delta df\rvert$	|P.value|	|ΔTLI|	|ΔRMSEA|
a. Overtime										
Configural	85.46	72	0.98	0.97	0.03					
Metric	93.36	82	0.98	0.98	0.02	7.54	10	0.67	0.01	0.01
Scalar	103.81	92	0.98	0.98	0.02	10.36	10	0.41	0.00	0.00
b. Gender										
Configural	184.99	144	0.95	0.92	0.05					
Metric	195.45	156	0.95	0.93	0.05	11.22	12	0.51	0.01	0.00
Scalar	209.43	168	0.95	0.93	0.05	13.88	12	0.31	0.00	0.00
c. ID Level										
Configural	220.43	144	0.88	0.83	0.07					
Metric	222.19	156	0.90	0.86	0.06	7.19	12	0.84	0.03	0.01
Scalar	241.42	168	0.89	0.86	0.06	19.17	12	0.08	0.00	0.00

Note. χ^2= Chi-square; df = degrees of freedom; CFI = comparative fit index; TLI = Tucker-Lewis index; RMSEA = root mean square of approximation; $\Delta\chi^2$ = difference in the χ^2 between nested models; Δdf = difference in the df between nested models; P.value = Significance Level; ΔTLI = difference in the TLI between nested models; ΔRMSEA = difference in the RMSEA between nested models; |. | = absolute value.

Table 23.

Results of Measurement Invariance for *Task orientation (TEO)*

	χ^2	df	CFI	TLI	RMSEA	$\|\Delta\chi^2\|$	$\|\Delta df\|$	|P.value|	$\|\Delta TLI\|$	$\|\Delta RMSEA\|$
a. Overtime										
Configural	579.72	372	0.86	0.84	0.05					
Metric	595.27	392	0.86	0.85	0.05	15.40	20	0.75	0.01	0.00
Scalar	611.35	412	0.87	0.86	0.05	13.68	20	0.85	0.01	0.00
b. Gender										
Configural	1444.22	744	0.66	0.61	0.09					
Metric	1451.67	771	0.67	0.63	0.09	21.45	27	0.76	0.02	0.00
Scalar	1485.38	798	0.67	0.64	0.08	32.32	27	0.22	0.01	0.01
c. ID Level										
Configural	1303.79	744	0.69	0.64	0.08					
Metric	1326.47	771	0.70	0.66	0.08	26.87	27	0.47	0.02	0.00
Scalar	1359.57	798	0.69	0.66	0.08	32.76	27	0.21	0.00	0.00

Note. χ^2= Chi-square; df = degrees of freedom; CFI = comparative fit index; TLI = Tucker-Lewis index; RMSEA = root mean square of approximation; $\Delta\chi^2$ = difference in the χ^2 between nested models; Δdf = difference in the df between nested models; P.value = Significance Level; ΔTLI = difference in the TLI between nested models; ΔRMSEA = difference in the RMSEA between nested models; |. | = absolute value.

Table 24.

Results of Measurement Invariance for *Worries* from *Glasgow Anxiety Scale*

	χ^2	df	CFI	TLI	RMSEA	$\|\Delta\chi^2\|$	$\|\Delta df\|$	|P.value|	$\|\Delta TLI\|$	$\|\Delta RMSEA\|$
a. Overtime										
Configural	518.16	370	0.92	0.90	0.04					
Metric	542.94	390	0.91	0.90	0.04	24.13	20	0.24	0.00	0.00
Scalar	578.58	410	0.90	0.90	0.04	36.10	20	0.15	0.00	0.00
b. Gender										
Configural	1259.86	740	0.77	0.73	0.08					
Metric	1299.01	767	0.76	0.73	0.08	38.84	27	0.07	0.00	0.00
Scalar	1349.72	794	0.75	0.73	0.08	50.69	27	0.00	0.00	0.00
c. ID Level										
Configural	1167.69	740	0.79	0.75	0.07					
Metric	1193.29	767	0.79	0.76	0.07	24.79	27	0.59	0.01	0.00
Scalar	1231.57	794	0.78	0.76	0.07	38.21	27	0.07	0.00	0.00

Note. χ^2= Chi-square; df = degrees of freedom; CFI = comparative fit index; TLI = Tucker-Lewis index; RMSEA = root mean square of approximation; $\Delta\chi^2$ = difference in the χ^2 between nested models; Δdf = difference in the df between nested models; P.value = Significance Level; ΔTLI = difference in the TLI between nested models; ΔRMSEA = difference in the RMSEA between nested models; |. | = absolute value.

Table 25.

Results of Measurement Invariance for *Specific Fears* from *Glasgow Anxiety Scale*

	χ^2	df	CFI	TLI	RMSEA	$\lvert\Delta\chi^2\rvert$	$\lvert\Delta df\rvert$	|P.value|	|ΔTLI|	|ΔRMSEA|
a. Overtime										
Configural	393.95	290	0.93	0.92	0.04					
Metric	416.33	308	0.93	0.92	0.04	22.29	18	0.22	0.00	0.00
Scalar	436.87	326	0.93	0.92	0.04	19.94	18	0.34	0.00	0.00
b. Gender										
Configural	955.03	580	0.80	0.76	0.07					
Metric	980.51	604	0.80	0.77	0.07	25.93	24	0.36	0.01	0.00
Scalar	1011.70	628	0.80	0.78	0.07	31.61	24	0.14	0.01	0.00
c. ID Level										
Configural	961.20	580	0.79	0.75	0.08					
Metric	978.92	604	0.79	0.76	0.07	20.21	24	0.68	0.01	0.01
Scalar	1006.50	628	0.79	0.77	0.07	26.99	24	0.30	0.01	0.00

Note. χ^2= Chi-square; df = degrees of freedom; CFI = comparative fit index; TLI = Tucker-Lewis index; RMSEA = root mean square of approximation; $\Delta\chi^2$ = difference in the χ^2 between nested models; Δdf = difference in the df between nested models; P.value = Significance Level; ΔTLI = difference in the TLI between nested models; ΔRMSEA = difference in the RMSEA between nested models; |. | = absolute value.

Table 26.

Results of Measurement Invariance for *Physiological symptoms* from *Glasgow Anxiety Scale*

	χ^2	df	CFI	TLI	RMSEA	$\lvert\Delta\chi^2\rvert$	$\lvert\Delta df\rvert$	|P.value|	$\lvert\Delta TLI\rvert$	$\lvert\Delta RMSEA\rvert$
a. Overtime										
Configural	289.86	224	0.95	0.94	0.04					
Metric	301.70	240	0.96	0.95	0.03	10.55	16	0.84	0.01	0.01
Scalar	324.66	256	0.95	0.95	0.03	23.38	16	0.10	0.00	0.00
b. Gender										
Configural	717.91	448	0.84	0.81	0.07					
Metric	736.31	469	0.85	0.82	0.07	18.68	21	0.61	0.01	0.00
Scalar	776.09	490	0.84	0.81	0.07	39.88	21	0.01	0.01	0.00
c. ID Level										
Configural	663.94	448	0.86	0.83	0.07					
Metric	703.68	469	0.85	0.83	0.07	39.00	21	0.01	0.00	0.00
Scalar	744.69	490	0.84	0.82	0.07	41.59	21	0.00	0.01	0.00

Note. χ^2= Chi-square; df = degrees of freedom; CFI = comparative fit index; TLI = Tucker-Lewis index; RMSEA = root mean square of approximation; $\Delta\chi^2$ = difference in the χ^2 between nested models; Δdf = difference in the df between nested models; P.value = Significance Level; ΔTLI = difference in the TLI between nested models; ΔRMSEA = difference in the RMSEA between nested models; |. | = absolute value.

Table 27.

Results of Measurement Invariance for *Glasgow Depression Scale*

	χ^2	df	CFI	TLI	RMSEA	$\lvert\Delta\chi^2\rvert$	$\lvert\Delta df\rvert$	|P.value|	$\lvert\Delta TLI\rvert$	$\lvert\Delta RMSEA\rvert$
a. T1	140.91	89	0.95	0.94	0.05					
Configural										
Metric										
Scalar										
b. Gender										
Configural	266.05	178	0.92	0.90	0.07					
Metric	279.34	192	0.92	0.92	0.06	11.05	14	0.68	0.02	0.01
Scalar	300.06	206	0.91	0.91	0.06	20.77	14	0.11	0.01	0.00
c. ID Level										
Configural	273.17	178	0.91	0.90	0.07					
Metric	290.19	192	0.91	0.90	0.07	15.30	14	0.36	0.00	0.00
Scalar	314.95	206	0.90	0.90	0.07	25.40	14	0.03	0.00	0.00

Note. χ^2= Chi-square; df = degrees of freedom; CFI = comparative fit index; TLI = Tucker-Lewis index; RMSEA = root mean square of approximation; $\Delta\chi^2$ = difference in the χ^2 between nested models; Δdf = difference in the df between nested models; P.value = Significance Level; ΔTLI = difference in the TLI between nested models; ΔRMSEA = difference in the RMSEA between nested models; |. | = absolute value.

Table 28.

Results of Measurement Invariance for *Prosocial (SDQS)*

	χ^2	df	CFI	TLI	RMSEA	$\lvert\Delta\chi^2\rvert$	$\lvert\Delta df\rvert$	|P.value|	$\lvert\Delta TLI\rvert$	$\lvert\Delta RMSEA\rvert$
a. Overtime										
Configural	37.8	39	1.00	1.01	0.00					
Metric	40.83	47	1.00	1.02	0.00	3.66	8	0.89	0.01	0.00
Scalar	52.14	55	1.00	1.01	0.00	11.72	8	0.16	0.01	0.00
b. Gender										
Configural	81.88	78	0.99	0.99	0.02					
Metric	94.21	87	0.99	0.98	0.03	12.28	9	0.20	0.01	0.01
Scalar	99.09	96	0.99	0.99	0.02	4.86	9	0.85	0.01	0.01
c. ID Level										
Configural	95.54	78	0.97	0.94	0.05					
Metric	107.13	87	0.96	0.94	0.05	11.51	9	0.24	0.00	0.00
Scalar	121.67	96	0.95	0.93	0.05	14.50	9	0.11	0.01	0.00

Note. χ^2= Chi-square; df = degrees of freedom; CFI = comparative fit index; TLI = Tucker-Lewis index; RMSEA = root mean square of approximation; $\Delta\chi^2$ = difference in the χ^2 between nested models; Δdf = difference in the df between nested models; P.value = Significance Level; ΔTLI = difference in the TLI between nested models; ΔRMSEA = difference in the RMSEA between nested models; |. | = absolute value.

Table 29.

Results of Measurement Invariance for *Behavior disorder, family rebelion (MPQS)*

	χ^2	df	CFI	TLI	RMSEA	$\|\Delta\chi^2\|$	|Δdf|	|P.value|	|ΔTLI|	|ΔRMSEA|
a. Overtime Doesn't work	36.99	7	0.46	0.16	0.13					
Configural										
Metric										
Scalar										
b. Gender										
Configural	61.89	18	0.38	0.26	0.14					
Metric	57.85	21	0.48	0.26	0.12	0.72	3	0.87	0.29	0.02
Scalar	61.17	24	0.48	0.34	0.11	0.65	3	0.89	0.08	0.01
c. ID Level										
Configural	46.56	18	0.59	0.31	0.12					
Metric	49.60	21	0.58	0.41	0.11	3.87	3	0.28	0.10	0.01
Scalar	54.17	24	0.56	0.45	0.11	2.34	3	0.50	0.04	0.00

Note. χ^2= Chi-square; df = degrees of freedom; CFI = comparative fit index; TLI = Tucker-Lewis index; RMSEA = root mean square of approximation; $\Delta\chi^2$ = difference in the χ^2 between nested models; Δdf = difference in the df between nested models; P.value = Significance Level; ΔTLI = difference in the TLI between nested models; ΔRMSEA = difference in the RMSEA between nested models; |. | = absolute value.

Table 30.

Results of Measurement Invariance for *Behavior disorder, school rebelion (MPQS)*

	χ^2	df	CFI	TLI	RMSEA	$\lvert\Delta\chi^2\rvert$	$\lvert\Delta df\rvert$	|P.value|	$\lvert\Delta TLI\rvert$	$\lvert\Delta RMSEA\rvert$
a. Overtime										
Configural	65.24	43	0.93	0.90	0.05					
Metric	74.85	51	0.93	0.91	0.04	10.38	8	0.24	0.01	0.01
Scalar	91.69	59	0.90	0.89	0.05	20.59	8	0.01	0.02	0.01
b. Gender										
Configural	141.93	86	0.88	0.82	0.07					
Metric	155.00	95	0.88	0.83	0.07	13.89	9	0.13	0.01	0.00
Scalar	174.66	104	0.85	0.81	0.08	21.85	9	0.01	0.02	0.01
c. ID Level										
Configural	172.40	86	0.81	0.70	0.10					
Metric	204.78	95	0.75	0.66	0.10	29.44	9	0.00	0.04	0.00
Scalar	225.10	104	0.73	0.66	0.10	20.63	9	0.01	0.00	0.00

Note. χ^2= Chi-square; df = degrees of freedom; CFI = comparative fit index; TLI = Tucker-Lewis index; RMSEA = root mean square of approximation; $\Delta\chi^2$ = difference in the χ^2 between nested models; Δdf = difference in the df between nested models; P.value = Significance Level; ΔTLI = difference in the TLI between nested models; ΔRMSEA = difference in the RMSEA between nested models; |. | = absolute value.

Table 31.

Results of Measurement Invariance for *Behavior disorder, agression against the family (MPQS)*

	χ^2	df	CFI	TLI	RMSEA	$\lvert\Delta\chi^2\rvert$	$\lvert\Delta df\rvert$	|P.value|	$\lvert\Delta TLI\rvert$	$\lvert\Delta RMSEA\rvert$
a. Overtime										
Configural	4.39	7	1.00	1.10	0.00					
Metric	6.98	11	1.00	1.10	0.00	2.59	4	0.63	0.00	0.00
Scalar	13.46	15	1.00	1.03	0.00	9.11	4	0.06	0.07	0.00
b. Gender										
Configural	14.48	14	0.99	0.99	0.02					
Metric	17.47	17	0.99	0.99	0.02	2.98	3	0.39	0.00	0.00
Scalar	18.77	20	1.00	1.03	0.00	0.15	3	0.99	0.04	0.02
c. ID Level										
Configural	20.36	14	0.92	0.83	0.06					
Metric	22.97	17	0.93	0.87	0.06	3.57	3	0.31	0.04	0.00
Scalar	31.85	20	0.85	0.78	0.07	16.41	3	0.00	0.09	0.01

Note. χ^2= Chi-square; df = degrees of freedom; CFI = comparative fit index; TLI = Tucker-Lewis index; RMSEA = root mean square of approximation; $\Delta\chi^2$ = difference in the χ^2 between nested models; Δdf = difference in the df between nested models; P.value = Significance Level; ΔTLI = difference in the TLI between nested models; ΔRMSEA = difference in the RMSEA between nested models; |. | = absolute value.

Table 32.

Results of Measurement Invariance for *Conduct problems (SDQS)*

	χ^2	df	CFI	TLI	RMSEA	$\lvert\Delta\chi^2\rvert$	$\lvert\Delta df\rvert$	|P.value|	$\lvert\Delta TLI\rvert$	$\lvert\Delta RMSEA\rvert$
a. Overtime										
Configural	5.21	6	1.00	1.03	0.00					
Metric	8.97	10	1.00	1.02	0.00	3.73	4	0.44	0.01	0.00
Scalar	12.71	14	1.00	1.02	0.00	3.90	4	0.42	0.00	0.00
b. Gender										
Configural	73.40	18	0.69	0.48	0.16					
Metric	76.11	21	0.69	0.56	0.15	6.16	3	0.10	0.08	0.01
Scalar	80.18	24	0.68	0.61	0.14	3.62	3	0.31	0.05	0.01
c. ID Level										
Configural	4.98	12	1.00	1.22	0.00					
Metric	20.67	15	0.93	0.86	0.06	16.46	3	0.00	0.36	0.06
Scalar	28.16	18	0.87	0.79	0.07	6.63	3	0.08	0.07	0.01

Note. χ^2= Chi-square; df = degrees of freedom; CFI = comparative fit index; TLI = Tucker-Lewis index; RMSEA = root mean square of approximation; $\Delta\chi^2$ = difference in the χ^2 between nested models; Δdf = difference in the df between nested models; P.value = Significance Level; ΔTLI = difference in the TLI between nested models; ΔRMSEA = difference in the RMSEA between nested models; |. | = absolute value.

Appendix C. Relationships between indicator and outcome variables.

Table 1. Relationships between School Climate, Teacher Relationships and School Experiences and Psychosocial Wellbeing.

Predictors	Anxiety ICC = 0.47		Depression ICC = 0.52		Prosocial ICC = 0.42		Problematic behaviour ICC = 0.52		Delinquency ICC = 0.33	
	Estimate	p-value	Estimate	p-value	Estimate	p-value	Estimate	p-value	Estimate	p-value
School Climate										
School Bonding Climate	0.03	0.556	0.01	0.754	0.18	0.026	-0.01	0.887	0.11	0.032
Student Relational Climate	-0.09	0.073	-0.10	0.014	-0.02	0.859	0.01	0.926	0.06	0.275
Teacher-Student Relational Climate	0.09	0.127	0.06	0.200	-0.10	0.375	-0.00	0.990	0.02	0.777
Student Safety Climate - Fear	0.25	<0.001	0.21	<0.001	0.16	0.035	0.28	<0.001	0.22	<0.001
Educational Climate	0.05	0.481	-0.02	0.730	0.12	0.318	-0.13	0.118	-0.25	0.002
Teacher										
Warmth	0.15	0.026	0.13	0.018	0.11	0.360	0.09	0.233	-0.01	0.903
Lack of Conflict	-0.18	0.039	-0.21	0.004	-0.11	0.474	-0.58	<0.001	-0.24	0.013
Responsiveness	0.00	0.984	0.01	0.952	-0.27	0.229	-0.03	0.857	-0.06	0.645
Autonomy	0.15	0.130	0.02	0.843	0.58	0.002	0.21	0.086	0.12	0.290
Demandingness	0.11	0.199	0.03	0.666	0.02	0.878	0.01	0.913	0.09	0.341
School Experiences										
Belonging to school	-0.03	0.520	-0.15	0.000	0.13	0.152	-0.06	0.264	0.06	0.215
Students loneliness	0.09	0.137	0.08	0.072	0.02	0.882	0.02	0.739	0.02	0.718
Major Victimization	0.08	0.063	0.03	0.450	0.05	0.528	0.30	<0.001	0.35	<0.001
Minor Victimization	0.20	<0.001	0.21	<0.001	0.38	<0.001	0.22	<0.001	0.12	0.005

Table 2. Relationships between Physical Wellbeing and Psychosocial Wellbeing.

Predictors	Global Self-concept ICC = 0.44		Anxiety		Depression		Strength ICC = 0.72		Flexibility ICC = 0.71		Jump	
	Estimate	p-value	Estimate	p-value	Estimate	p-value	Estimate	p-value	Estimate	p-value	Estimate	p-value
Frequency of sport within school	0.02	0.486	0.01	0.473	-0.00	0.766	0.01	0.621	-0.00	0.924	-0.01	0.823
Frequency of sport outside school	-0.02	0.405	0.02	0.180	0.02	0.270	0.01	0.693	0.00	0.842	0.04	0.072
Motives for Physical Activities												
Interest/Enjoyment	0.10	0.221	-0.04	0.476	-0.06	0.263	-0.03	0.309	-0.22	0.003	0.04	0.665
Competence	0.11	0.193	0.05	0.461	0.10	0.063	0.07	0.274	0.07	0.377	0.04	0.680
Appearance	0.14	0.027	-0.01	0.843	0.01	0.859	-0.03	0.571	-0.01	0.814	0.00	0.953
Fitness	0.04	0.661	-0.09	0.140	-0.04	0.424	-0.07	0.340	0.14	0.080	-0.12	0.216
Social	0.16	0.054	0.11	0.075	-0.02	0.703	-0.09	0.258	0.04	0.585	-0.10	0.320
Barriers towards Physical Activity												
Heller	0.07	0.398	0.15	0.020	0.07	0.204	-0.09	0.174	-0.11	0.143	0.02	0.822
McAuley	-0.04	0.674	0.24	<0.001	0.19	<0.001	-0.01	0.917	-0.03	0.726	-0.15	0.139
Ego Orientation	0.11	0.088	0.01	0.783	0.00	0.918	0.09	0.092	-0.03	0.603	-0.02	0.774
Task Orientation	0.16	0.047	0.06	0.293	-0.08	0.141	-0.01	0.860	-0.02	0.778	0.10	0.297

Table 3. Gender and ID Level Relationships between School Climate, Teacher and Peer Relationships and Psychosocial Wellbeing.

Predictors	Anxiety ICC=0.47		Depression ICC = 0.52		Prosocial ICC = 0.42		Problematics behaviour ICC = 0.52		Delinquency ICC = 0.33	
	Estimate (95% CI)	p-value	Estimate (95% CI)	p-value	Estimate (95% CI)	p-value	Estimate (95% CI)	p-value	Estimate (95% CI)	p-value
School Bonding Climate										
Gender	0.05 (-0.12; 0,21)	0.563	0.09 (-0.05; 0.22)	0.188	0.11 (-0.18; 0.39)	0.458	-0.04 (-0.25; 0.14)	0.718	0.09 (-0.10; 0.24)	0.326
Female	-0.00	0.945	-0.05	0.410	0.11	0.406	0.02	0.855	0.05	0.531
Male	0.04	0.408	0.04	0.350	0.22	0.020	-0.02	0.751	0.14	0.019
ID Level	0.15 (-0.00; 0.29)	0.062	0.11 (-0.01; 0.24)	0.105	-0.18 (-0.49; 0.13)	0.220	0.04 (-0.17; 0.24)	0.677	0.03 (-0.21; 0.16)	0.750
Mild	-0.05	0.409	-0.02	0.721	0.23	0.026	-0.04	0.594	0.12	0.059
Moderate	0.10	0.118	0.09	0.090	0.05	0.678	0.00	0.957	0.09	0.239
Student Relational Climate										
Gender	0.08 (-0.07; 0.23)	0.346	0.17 (0.03; 0.30)	0.012	0.43 (0.11; 0.72)	0.005	0.13 (-0.07; 0.36)	0.212	0.12 (-0.08; 0.32)	0.195
Female	-0.14	0.073	-0.22	0.001	-0.31	0.027	-0.09	0.352	-0.03	0.735
Male	-0.06	0.275	-0.06	0.275	0.11	0.276	-0.06	0.275	-0.06	0.275
ID Level	0.10 (-0.06; 0.27)	0.230	0.07 (-0.06; 0.20)	0.278	-0.08 (-0.36; 0.22)	0.609	0.07 (-0.14; 0.28)	0.418	-0.00 (-0.18; 0.19)	0.992
Mild	-0.15	0.020	-0.14	0.005	-0.05	0.693	-0.05	0.513	0.05	0.531
Moderate	-0.05	0.507	-0.07	0.221	-0.12	0.334	0.02	0.798	0.04	0.592
Teacher-Student Relational Climate										
Gender	0.02 (-0.14; 0.19)	0.772	0.12 (-0.01; 0.25)	0.073	0.40 (0.06; 0.68)	0.011	0.06 (-0.16; 0.27)	0.590	0.13 (-0.07; 0.31)	0.197
Female	0.08	0.324	-0.02	0.777	-0.37	0.017	-0.04	0.678	-0.07	0.453
Male	0.11	0.103	-0.10	0.050	0.03	0.804	0.01	0.865	0.05	0.499

Table 3 continued. Gender and ID Level Relationships between School Climate, Teacher and Peer Relationships and Psychosocial Wellbeing.

Predictors	Anxiety ICC=0.47		Depression ICC = 0.52		Prosocial ICC = 0.42		Problematic behavious ICC = 0.52		Delinquency ICC = 0.33	
	Estimate (95% CI)	p-value	Estimate (95% CI)	p-value	Estimate (95% CI)	p-value	Estimate (95% CI)	p-value	Estimate (95% CI)	p-value
Teacher-Student Relational Climate										
ID Level	0.20 (0.04; 0.37)	0.024	0.17 (0.01; 0.32)	0.017	-0.26 (-0.57; 0.05)	0.104	0.03 (-0.18; 0.25)	0.769	-0.07 (-0.28; 0.13)	0.506
Mild	-0.00	0.988	-0.03	0.544	-0.08	0.552	-0.03	0.721	0.01	0.911
Moderate	0.20	0.017	0.13	0.043	-0.34	0.025	0.00	0.996	-0.06	0.545
Student Safety Climate - Fear										
Gender	-0.04 (-0.22; 0.13)	0.604	-0.07 (-0.20; 0.06)	0.296	-0.21 (-0.51; 0.09)	0.185	-0.12 (-0.31; 0.12)	0.263	0.01 (-0.19; 0.19)	0.935
Female	0.28	<0.001	0.26	<0.001	0.29	0.025	0.36	<0.001	0.23	0.005
Male	0.23	<0.001	0.19	<0.001	0.08	0.341	0.24	<0.001	0.23	<0.001
ID Level	0.07 (-0.10; 0.22)	0.430	0.05 (-0.09; 0.18)	0.481	0.18 (-0.13; 0.48)	0.233	0.00 (-0.21; 0.20)	0.993	0.02 (-0.16; 0.22)	0.807
Mild	0.18	0.005	0.15	0.003	0.03	0.769	0.25	0.002	0.18	0.011
Moderate	0.24	<0.001	0.20	<0.001	0.21	0.033	0.25	<0.001	0.21	0.001
Educational Climate										
Gender	0.20 (-0.01; 0.42)	0.055	0.13 (-0.03; 0.29)	0.108	0.25 (-0.10; 0.61)	0.192	-0.04 (-0.28; 0.23)	0.777	-0.06 (-0.27; 0.18)	0.643
Female	-0.10	0.311	-0.12	0.146	-0.06	0.757	-0.10	0.410	-0.20	0.077
Male	0.10	0.173	0.02	0.755	0.19	0.153	-0.14	0.128	-0.26	0.003
ID Level	0.33 (0.11; 0.54)	0.001	0.20 (0.05; 0.38)	0.014	-0.09 (-0.42; 0.30)	0.650	0.13 (-0.11; 0.39)	0.324	0.04 (-0.20; 0.28)	0.764
Mild	-0.12	0.154	-0.13	0.055	0.21	0.165	-0.16	0.113	-0.23	0.018
Moderate	0.22	0.013	0.07	0.300	0.12	0.446	-0.04	0.741	-0.20	0.063

Table 4. Gender and ID Level Relationships between Teacher Style and Psychosocial Wellbeing.

Predictors	Anxiety ICC=0.47		Depression ICC = 0.52		Prosocial ICC = 0.42		Problematic behaviour ICC = 0.52		Delinquency ICC = 0.33	
	Estimate (95% CI)	p-value	Estimate (95% CI)	p-value	Estimate (95% CI)	p-value	Estimate (95% CI)	p-value	Estimate (95% CI)	p-value
Warmth										
Gender	-0.07 (-0.34; 0.22)	0.612	0.06 (-0.19; 0.30)	0.601	0.58 (0.04; 1.11)	0.028	-0.17 (-0.49; 0.17)	0.324	-0.05 (-0.38; 0.26)	0.755
Female	0.20	0.106	0.09	0.409	-0.33	0.161	0.22	0.153	0.03	0.846
Male	0.13	0.062	0.15	0.017	0.24	0.074	0.05	0.525	-0.02	0.796
ID Level	0.12 (-0.19; 0.41)	0.401	-0.04 (-0.26; 0.20)	0.748	0.28 (-0.30; 0.85)	0.283	-0.26 (-0.60; 0.06)	0.125	-0.33 (-0.65; 0.01)	0.052
Mild	0.11	0.217	0.11	0.133	-0.04	0.788	0.18	0.079	0.10	0.334
Moderate	0.22	0.053	0.07	0.438	0.23	0.271	-0.08	0.573	-0.23	0.103
Lack of Conflict										
Gender	0.00 (-0.34; 0.33)	0.987	-0.01 (-0.29; 0.25)	0.935	0.37 (-0.24; 0.95)	0.229	0.03 (-0.33; 0.42)	0.875	-0.09 (-0.46; 0.26)	0.624
Female	-0.15	0.337	-0.18	0.167	-0.38	0.190	-0.62	0.002	-0.20	0.270
Male	-0.15	0.106	-0.19	0.012	-0.01	0.937	-0.58	<0.001	-0.29	0.006
ID Level	-0.14 (-0.47; 0.23)	0.420	0.03 (-0.23; 0.30)	0.815	-0.31 (-0.88; 0.31)	0.315	-0.56 (-0.99; -0.12)	0.009	-0.25 (-0.61; 0.10)	0.212
Mild	-0.13	0.219	-0.20	0.016	-0.06	0.735	-0.43	0.000	-0.17	0.143
Moderate	-0.27	0.093	-0.17	0.198	-0.37	0.181	-0.99	<0.001	-0.43	0.021
Responsiveness										
Gender	-0.31 (-0.75; 0.05)	0.115	-0.19 (-0.51; 0.08)	0.243	0.35 (-0.40; 0.99)	0.344	-0.45 (-0.89; 0.03)	0.063	-0.18 (-0.63; 0.24)	0.416
Female	0.23	0.245	0.15	0.372	-0.56	0.129	0.33	0.168	0.09	0.672
Male	-0.08	0.515	-0.05	0.666	-0.21	0.383	-0.12	0.450	-0.09	0.546

Table 4 continued. Gender and ID Level Relationships between Teacher Style and Psychosocial Wellbeing.

Predictors	Anxiety ICC=0.47		Depression ICC = 0.52		Prosocial ICC = 0.42		Problematic behaviour ICC = 0.52		Delinquency ICC = 0.33	
	Estimate (95% CI)	p-value	Estimate (95% CI)	p-value	Estimate (95% CI)	p-value	Estimate (95% CI)	p-value	Estimate (95% CI)	p-value
Responsiveness										
ID Level	-0.09 (-0.56; 0.34)	0.689	0.14 (-0.25; 0.48)	0.458	0.60 (-0.17; 1.39)	0.130	-0.35 (-0.92; 0.17)	0.202	-0.14 (-0.67; 0.42)	0.591
Mild	0.04	0.829	-0.03	0.835	-0.51	0.093	0.17	0.430	0.02	0.928
Moderate	-0.05	0.766	0.11	0.460	0.09	0.770	-0.19	0.391	-0.12	0.555
Autonomy										
Gender	-0.27 (-0.64; 0.07)	0.130	-0.15 (-0.48; 0.13)	0.305	-0.05 (-0.70; 0.63)	0.888	-0.34 (-0.77; 0.10)	0.119	-0.15 (-0.57; 0.26)	0.456
Female	0.39	0.027	0.15	0.305	0.63	0.534	0.18	0.026	0.23	0.250
Male	0.12	0.242	-0.00	0.985	0.58	0.003	0.14	0.259	0.08	0.494
ID Level	0.19 (-0.29; 0.55)	0.367	0.18 (-0.14; 0.53)	0.306	0.47 (-0.18; 1.16)	0.199	-0.07 (-0.62; 0.43)	0.775	0.04 (-0.41; 0.50)	0.872
Mild	0.08	0.482	-0.05	0.636	0.40	0.057	0.20	0.177	0.09	0.534
Moderate	0.28	0.143	0.13	0.394	0.57	0.033	0.13	0.584	0.12	0.561
Demandingness										
Gender	0.10 (-0.24; 0.44)	0.562	0.08 (-0.20; 0.41)	0.589	-0.21 (-0.85; 0.43)	0.518	-0.02 (-0.47; 0.43)	0.924	-0.01 (-0.39; 0.39)	0.946
Female	0.03	0.833	-0.03	0.826	0.19	0.518	0.03	0.896	0.10	0.591
Male	0.14	0.141	0.05	0.512	-0.02	0.913	0.01	0.965	0.09	0.416
ID Level	0.11(-0.25; 0.46)	0.523	0.22 (-0.06; 0.53)	0.134	0.20 (-0.33; 0.81)	0.527	0.19 (-0.25; 0.64)	0.370	0.23 (-0.11; 0.63)	0.255
Mild	0.07	0.591	-0.05	0.618	-0.04	0.841	-0.05	0.753	0.01	0.947
Moderate	0.18	0.203	0.17	0.138	0.15	0.524	0.15	0.384	0.24	0.131

Table 5. Gender and ID Level Relationships between Physical Activity and Psychosocial Wellbeing.

Predictors	Anxiety ICC=0.47		Depression ICC = 0.52		Global Self-concept ICC = 0.44	
	Estimate (95% CI)	p-value	Estimate (95% CI)	p-value	Estimate (95% CI)	p-value
Sport Within School						
Gender	0.00 (-0.08; 0.08)	0.933	0.01 (-0.05; 0.08)	0.780	-0.03 (-0.13; 0.09)	0.640
Female	0.02	0.651	-0.11	0.712	0.04	0.467
Male	0.01	0.509	0.00	0.919	0.01	0.725
ID Level	0.01 (-0.06; 0.08)	0.749	0.03 (-0.03; 0.10)	0.346	-0.05 (-0.15; 0.04)	0.319
Mild	0.00	0.851	-0.02	0.333	0.04	0.218
Moderate	0.02	0.553	0.01	0.708	-0.01	0.827
Sport Outside School						
Gender	0.01 (-0.06; 0.9)	0.688	-0.01 (-0.07; 0.05)	0.760	-0.05 (-0.14; 0.05)	0.262
Female	0.02	0.628	0.02	0.365	0.02	0.679
Male	0.03	0.128	0.01	0.376	-0.04	0.171
ID Level	0.01 (-0.06; 0.08)	0.821	-0.02 (-0.08; 0.05)	0.574	-0.07 (-0.16; 0.02)	0.113
Mild	0.03	0.135	0.03	0.090	0.00	0.877
Moderate	0.04	0.173	0.01	0.577	-0.07	0.079
Interest						
Gender	0.21 (0.05; 0.36)	0.011	0.14 (0.00; 0.29)	0.040	0.02 (-0.20; 0.27)	0.823
Female	-0.16	0.038	-0.14	0.035	0.07	0.478
Male	0.05	0.455	0.00	0.932	0.10	0.283
ID Level	0.03 (-0.12; 0.19)	0.707	0.08 (-0.06; 0.21)	0.255	0.10 (-0.13; 0.29)	0.369
Mild	-0.05	0.533	-0.10	0.115	0.06	0.577
Moderate	-0.02	0.831	-0.02	0.741	0.15	0.121

Table 5 continued. Gender and ID Level Relationships between Physical Activity and Psychosocial Wellbeing.

Predictors	Anxiety ICC=0.47		Depression ICC = 0.52		Global Self-concept ICC = 0.44	
	Estimate (95% CI)	p-value	Estimate (95% CI)	p-value	Estimate (95% CI)	p-value
Competence						
Gender	0.18 (0.02; 0.34)	0.035	0.04 (-0.09; 0.19)	0.556	0.03 (-0.18; 0.24)	0.780
Female	-0.05	0.502	0.07	0.268	0.08	0.450
Male	0.12	0.073	0.12	0.045	0.11	0.236
ID Level	0.08 (-0.11; 0.24)	0.342	0.12 (-0.01; 0.25)	0.043	-0.04 (-0.26; 0.18)	0.736
Mild	0.03	0.789	0.03	0.660	0.13	0.208
Moderate	0.11	0.136	0.15	0.011	0.10	0.315
Appearance						
Gender	0.08 (-0.06; 0.23)	0.273	0.08 (-0.04; 0.22)	0.188	-0.16 (-0.34; 0.02)	0.085
Female	-0.04	0.530	-0.03	0.556	0.22	0.008
Male	0.04	0.475	0.05	0.301	0.05	0.469
ID Level	0.16 (0.00; 0.30)	0.029	0.10 (-0.01; 0.22)	0.082	0.07 (-0.11; 0.26)	0.470
Mild	-0.08	0.167	-0.05	0.316	0.11	0.143
Moderate	0.08	0.222	0.06	0.288	0.18	0.039
Fitness						
Gender	0.20 (0.03; 0.36)	0.017	0.08 (-0.05; 0.23)	0.243	-0.01 (-0.24; 0.19)	0.896
Female	-0.23	0.005	-0.10	0.150	0.06	0.610
Male	-0.03	0.710	-0.02	0.797	0.04	0.670
ID Level	0.18 (0.03; 0.32)	0.029	0.15 (0.00; 0.28)	0.027	0.11 (-0.12; 0.33)	0.338
Mild	-0.20	0.011	-0.11	0.088	-0.08	0.439
Moderate	-0.02	0.829	0.04	0.543	0.02	0.838

Table 5 continued. Gender and ID Level Relationships between Physical Activity and Psychosocial Wellbeing.

Predictors	Anxiety ICC=0.47		Depression ICC = 0.52		Global Self-concept ICC = 0.44	
	Estimate (95% CI)	p-value	Estimate (95% CI)	p-value	Estimate (95% CI)	p-value
Social						
Gender	0.21 (0.04; 0.37)	0.024	0.16 (0.02; 0.31)	0.039	-0.11 (-0.35; 0.15)	0.342
Female	-0.05	0.567	-0.14	0.063	0.25	0.032
Male	0.16	0.023	0.02	0.730	0.14	0.125
ID Level	0.26 (0.09; 0.42)	0.003	0.14 (0.01; 0.30)	0.051	0.22 (-0.03; 0.43)	0.060
Mild	0.00	0.959	-0.09	0.145	0.12	0.226
Moderate	0.26	0.002	0.05	0.434	0.33	0.002
Barriers Towards Physical Activities Heller						
Gender	0.05 (-0.14; 0.46)	0.557	0.05 (-0.10; 0.21)	0.504	-0.21 (-0.42; 0.01)	0.087
Female	0.10	0.298	0.02	0.766	0.23	0.058
Male	0.15	0.024	0.07	0.180	0.03	0.781
ID Level	0.16 (0.00; 0.31)	0.042	0.03 (0.-11; 0.18)	0.619	0.05 (-0.17; 025)	0.640
Mild	0.03	0.740	0.03	0.616	-0.01	0.958
Moderate	0.19	0.007	0.07	0.263	0.05	0.655
Barriers Towards Physical Activities McAuley						
Gender	-0.00 (-0.17; 0.17)	0.975	0.03 (-0.11; 0.17)	0.659	-0.23 (-0.44; 0.01)	0.046
Female	0.24	0.008	0.16	0.038	0.14	0.245
Male	0.24	<0.001	0.19	<0.001	-0.09	0.317
ID Level	0.09 (0.01; 0.32)	0.248	0.11 (-0.01; 0.24)	0.093	0.05 (-0.17; 024)	0.644
Mild	0.23	0.004	0.14	0.037	-0.03	0.759
Moderate	0.32	<0.001	0.25	<0.001	-0.04	0.710

Table 5 continued. Gender and ID Level Relationships between Physical Activity and Psychosocial Wellbeing.

Predictors	Anxiety ICC=0.47		Depression ICC = 0.52		Global Self-concept ICC = 0.44	
	Estimate (95% CI)	p-value	Estimate (95% CI)	p-value	Estimate (95% CI)	p-value
Ego Orientation						
Gender	0.19 (0.04; 0.35)	0.014	0.16 (0.03; 0.29)	0.013	-0.04 (-0.23; 0.18)	0.742
Female	-0.12	0.108	-0.11	0.074	0.12	0.193
Male	0.08	0.133	0.05	0.205	0.09	0.185
ID Level	0.08 (-0.08; 0.25)	0.340	0.15 (0.03; 0.38)	0.028	0.17 (-0.03; 0.38)	0.098
Mild	-0.04	0.468	-0.06	0.211	0.04	0.569
Moderate	0.03	0.621	0.08	0.132	0.22	0.017
Task Orientation						
Gender	0.24 (0.06; 0.41)	0.007	0.15 (0.01; 0.30)	0.049	-0.19 (-0.43; 0.04)	0.111
Female	-0.09	0.264	-0.17	0.015	0.29	0.011
Male	0.14	0.032	-0.03	0.638	0.10	0.264
ID Level	0.19 (0.02; 0.36)	0.033	0.19 (0.05; 0.36)	0.012	-0.02 (-0.24; 0.22)	0.866
Mild	-0.04	0.571	-0.15	0.016	0.19	0.055
Moderate	0.15	0.067	0.04	0.561	0.17	0.128

Table 6. Gender and ID Level Relationships between Psychosocial Wellbeing and Physical Activity and Physical Wellbeing.

Predictors	Strength ICC = 0.72		Flexibility ICC = 0.72		Jump ICC = 0.41		Body Mass Index ICC = 0.79	
	Estimate (95% CI)	p-value	Estimate (95% CI)	p-value	Estimate (95% CI)	p-value	Estimate (95% CI)	p-value
Sport Within School								
Gender	0.00 (-0.08; 0.10)	0.919	0.03 (-0.07; 0.12)	0.542	-0.06 (-0.19; 0.07)	0.382	0.46 (-0.19; 1.04)	0.133
Female	0.00	0.937	-0.03	0.573	0.03	0.565	-0.26	0.353
Male	0.01	0.709	0.01	0.827	-0.02	0.462	0.20	0.135
ID Level	0.03 (-0.05; 0.11)	0.441	0.03 (-0.06; 0.11)	0.524	-0.02 (-0.12; 0.09)	0.772	0.13 (-0.40; 0.66)	0.607
Mild	-0.01	0.784	-0.02	0.566	-0.01	0.824	0.12	0.442
Moderate	0.02	0.433	0.01	0.751	-0.03	0.5711	0.25	0.197
Sport Outside School								
Gender	-0.00 (-0.08; 0.08)	0.979	-0.03 (-0.11; 0.07)	0.570	0.04 (-0.07; 0.15)	0.489	-0.27 (-0.79; 0.22)	0.323
Female	0.00	0.901	0.03	0.517	0.01	0.752	0.34	0.154
Male	0.00	0.869	0.00	0.977	0.05	0.083	0.07	0.597
ID Level	0.02 (-0.06; 0.10)	0.564	0.03 (-0.06; 0.11)	0.545	-0.02 (-0.12; 0.08)	0.733	0.27 (-0.22; 0.83)	0.268
Mild	-0.01	0.784	-0.00	0.967	0.06	0.067	-0.06	0.700
Moderate	0.02	0.620	0.03	0.466	0.04	0.372	0.22	0.289
Interest								
Gender	-0.17 (-0.36; 0.02)	0.095	-0.18 (-0.39; 0.06)	0.109	0.09 (-0.16; 0.37)	0.457	-0.14 (-1.45; 1.05)	0.833
Female	0.05	0.559	-0.09	0.366	-0.03	0.795	-0.00	0.994
Male	-0.11	0.124	-0.27	0.002	0.06	0.563	-0.14	0.758
ID Level	-0.02 (-0.20; 0.18)	0.851	-0.15 (-0.39; 0.06)	0.171	-0.08 (-0.33; 0.17)	0.550	1.05 (-0.23; 2.30)	0.079
Mild	-0.10	0.440	-0.12	0.229	-0.00	0.967	-0.46	0.369
Moderate	-0.09	0.329	-0.29	0.003	-0.08	0.511	0.59	0.257

Table 6 continued. Gender and ID Level Relationships between Psychosocial Wellbeing and Physical Activity and Physical Wellbeing.

Predictors	Strength ICC = 0.72		Flexibility ICC = 0.72		Jump ICC = 0.41		Body Mass Index ICC = 0.79	
	Estimate (95% CI)	p-value	Estimate (95% CI)	p-value	Estimate (95% CI)	p-value	Estimate (95% CI)	p-value
Competence								
Gender	-0.17 (-0.35; 0.04)	0.077	-0.01 (-0.22; 0.20)	0.900	-0.07 (-0.33; 0.18)	0.582	-0.22 (-1.42; 0.95)	0.718
Female	0.16	0.065	0.08	0.430	0.07	0.569	0.22	0.703
Male	-0.00	0.964	0.07	0.447	-0.00	0.985	-0.00	0.995
ID Level	-0.11 (-0.29: 0.10)	0.249	-0.06 (-0.27; 0.71)	0.557	-0.14 (-0.40; 0.11)	0.281	1.11 (-0.05; 2.23)	0.057
Mild	0.12	0.187	0.14	0.199	0.11	0.408	-0.57	0.305
Moderate	0.01	0.887	0.07	0.429	-0.04	0.767	0.53	0.250
Appearance								
Gender	-0.06 (-0.22; 0.10)	0.468	-0.12 (-0.28; 0.08)	0.210	-0.07 (-0.30; 018)	0.549	0.13 (-0.87; 1.13)	0.813
Female	-0.02	0.825	0.06	0.436	0.02	0.842	0.22	0.626
Male	-0.08	0.224	-0.06	0.456	-0.05	0.605	0.34	0.375
ID Level	-0.10 (-0.27; 0.10)	0.253	-0.03 (-0.23; 0.16)	0.754	-0.17 (-0.40; 0.05)	0.144	0.11 (-0.89; 1.08)	0.838
Mild	0.02	0.772	0.00	0.988	0.06	0.471	0.08	0.837
Moderate	-0.08	0.293	-0.03	0.727	-0.11	0.342	0.19	0.679
Fitness								
Gender	-0.25 (-0.43; -0.07)	0.007	-0.31 (-0.53; -0.10)	0.004	-0.03 (-0.28; 0.23)	0.841	0.02 (-1.06; 1.14)	0.968
Female	0.10	0.255	0.30	0.002	-0.10	0.450	-0.79	0.160
Male	-0.15	0.054	-0.01	0.903	-0.12	0.285	-0.76	0.126
ID Level	-0.06 (-0.26; 0.13)	0.561	-0.04 (-0.25; 0.14)	0.677	-0.03 (-0.31; 0.23)	0.826	0.52 (-0.80; 1.54)	0.370
Mild	-0.06	0.523	0.18	0.079	-0.06	0.608	-0.90	0.080
Moderate	-0.11	0.234	0.13	0.201	-0.09	0.483	-0.39	0.508

Table 6 continued. Gender and ID Level Relationships between Psychosocial Wellbeing and Physical Activity and Physical Wellbeing.

Predictors	Strength ICC = 0.72		Flexibility ICC = 0.72		Jump ICC = 0.41		Body Mass Index ICC = 0.79	
	Estimate (95% CI)	p-value	Estimate (95% CI)	p-value	Estimate (95% CI)	p-value	Estimate (95% CI)	p-value
Social								
Gender	-0.19 (-0.40; 0.03)	0.075	-0.22 (-0.46; -0.02)	0.054	0.09 (-0.20; 0.35)	0.551	-0.12 (-1.29; 1.18)	0.852
Female	0.08	0.437	0.18	0.101	-0.13	0.347	0.07	0.915
Male	-0.11	0.153	-0.05	0.594	-0.05	0.663	-0.05	0.909
ID Level	-0.10 (-0.28; 0.11)	0.375	-0.07 (-0.29; 0.16)	0.580	-0.13 (-0.39; 0.12)	0.353	0.80 (-0.38; 2.05)	0.191
Mild	-0.03	0.736	0.04	0.639	-0.03	0.795	-0.38	0.445
Moderate	-0.12	0.215	-0.02	0.840	-0.16	0.233	0.43	0.461
Barriers Towards Physical Activities Heller								
Gender	0.01 (-0.21; 0.21)	0.954	-0.14 (-0.36; 0.11)	0.223	0.08 (-0.20; 0.35)	0.568	-0.66 (-1.85; 0.74)	0.310
Female	-0.08	0.432	-0.02	0.854	-0.02	0.873	0.11	0.861
Male	-0.07	0.294	-0.15	0.058	-0.06	0.589	-0.55	0.190
ID Level	-0.09 (-0.28; 0.12)	0.366	0.09 (-0.28; 0.09)	0.392	-0.064(-0.29; 0.22)	0.789	-0.69 (-1.88; 0.45)	0.237
Mild	-0.03	0.788	-0.06	0.543	0.07	0.603	0.02	0.975
Moderate	-0.11	0.157	-0.15	0.079	0.03	0.798	-0.68	0.145
Barriers Towards Physical Activities McAuley								
Gender	-0.05 (-0.23; 0.15)	0.604	-0.18 (-0.42; 0.02)	0.092	0.11 (-0.16; 0.39)	0.413	-0.23 (-1.50; 1.14)	0.720
Female	0.03	0.732	0.11	0.327	-0.23	0.109	0.57	0.359
Male	0.02	0.808	-0.08	0.344	-0.12	0.277	0.34	0.426
ID Level	-0.08 (-0.25; 0.10)	0.383	0.00 (-0.21; 0.20)	0.973	0.01 (-0.23; 0.26)	0.925	-0.95 (-2.17; 0.37)	0.115
Mild	-0.00	0.969	0.01	0.956	-0.17	0.180	0.88	0.094
Moderate	-0.09	0.312	0.01	0.927	-0.16	0.182	-0.07	0.894

Table 6 continued. Gender and ID Level Relationships between Psychosocial Wellbeing and Physical Activity and Physical Wellbeing.

Predictors	Strength ICC = 0.72		Flexibility ICC = 0.72		Jump ICC = 0.41		Body Mass Index ICC = 0.79	
	Estimate (95% CI)	p-value	Estimate (95% CI)	p-value	Estimate (95% CI)	p-value	Estimate (95% CI)	p-value
Ego Orientation								
Gender	-0.02 (-0.18; 0.15)	0.807	-0.17 (-0.36; 0.03)	0.075	0.02 (-0.21; 0.28)	0.847	0.22 (-0.83; 1.43)	0.692
Female	0.09	0.275	0.09	0.319	-0.04	0.715	0.18	0.723
Male	0.07	0.253	-0.08	0.212	-0.02	0.830	0.40	0.291
ID Level	0.12 (-0.07; 0.29)	0.215	-0.00 (-0.21; 0.19)	0.969	0.09 (-0.19; 0.35)	0.480	0.32 (-0.88; 1.42)	0.592
Mild	0.09	0.205	-0.06	0.461	-0.02	0.856	0.43	0.307
Moderate	0.21	0.009	-0.06	0.484	0.07	0.519	0.75	0.133
Task Orientation								
Gender	-0.22 (-0.41; -0.02)	0.026	-0.18 (-0.40; 0.04)	0.105	0.17 (-0.11; 0.44)	0.218	-0.22 (-1.38; 0.94)	0.719
Female	0.13	0.160	0.10	0.347	-0.01	0.957	0.36	0.527
Male	-0.08	0.258	-0.08	0.344	0.16	0.143	0.14	0.770
ID Level	0.00 (-0.21; 0.21)	0.986	-0.03 (-0.24; 0.23)	0.813	-0.00 (-0.25; 0.26)	0.980	0.67 (-0.48; 1.94)	0.308
Mild	0.03	0.762	-0.04	0.710	0.12	0.316	-0.02	0.966
Moderate	0.03	0.764	-0.07	0.547	0.12	0.372	0.65	0.281