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Children’s enjoyment of play during school lunchtime breaks:

An examination of intra- and inter-day reliability

Original Research

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Abstract

Background: Enjoyment and play during school lunchtime are correlated with children’s physical activity. Despite this, there is an absence of studies reporting children’s enjoyment of play during school lunchtime breaks. The purpose of this study was to examine the intra-day and inter-day reliability of children’s enjoyment of school lunchtime play. Methods: Surveys used to assess children’s enjoyment of lunchtime play were distributed to and completed by 197 children (112 males, 85 females), aged 8-12 years attending an elementary school in Victoria, Australia. Children completed the surveys during class before lunch (expected enjoyment) and after lunch (actual enjoyment) for five days. The intra- and inter-day enjoyment of school lunchtime play reliability were determined using a weighted kappa. Results: Intra-day kappa values ranged from fair (0.31) to substantial (0.75) within each of the five days (median kappa=0.41). In comparison, ‘expected’ (0.09-0.40; median 0.30) and ‘actual’ (0.05-0.46; median 0.28) inter-day enjoyment of lunchtime play displayed low reliability. Conclusions: Children’s enjoyment of lunchtime play appears to be more consistent within days than across days. The findings suggest that assessment of children’s enjoyment of lunchtime play once on a single day would be representative of a particular day but not necessarily that particular school week.
Children’s enjoyment of play during school lunchtime breaks

Background

The development of healthy lifestyle behaviours early in life is important. Childhood is a crucial time to develop activity habits that can prevent potential health consequences associated with a sedentary lifestyle in adulthood. Schools have been identified as a major setting for children to participate in physical activity and are being targeted to increase fitness standards among young people to reduce the prevalence of childhood obesity. A range of physical activity opportunities are present in schools including physical education, sport programs, after school activities and play during school breaks. However, there are a number of barriers to implementing physical education effectively and in most countries physical education doesn’t provide sufficient physical activity for children to meet national physical activity guidelines. With school curricular time devoted to children and adolescents’ physical education declining and to reduce the burden on schools to provide physical education, sport and after school activity programs, there is an increasing trend towards schools facilitating children’s physical activity via non-curricular avenues such as play during school breaks. Play during school breaks is now recognised as the major source for children’s daily physical activity, contributing up to 50% of children’s recommended daily physical activity. Evidence suggests children spend up to 35% of school breaks engaged in moderate to vigorous physical activity (MVPA). With children reported to be spending approximately 30 hours per week at school, access and opportunities for physical activity during periods other than school breaks are limited, therefore developing a greater understanding of children’s play during school lunchtime is vital.

An essential element of tailoring physical activity interventions to target children’s requires identification of key psychosocial correlates that may explain behaviour change. Children’s physical activity behaviour can include active play, structured sport, physical education and active transport. Many studies have been conducted to identify the psychosocial correlates of childhood physical activity. A comprehensive review of 108 studies published over 28 years was conducted by Sallis and colleagues. The psychosocial correlates that were consistently linked to childhood physical activity behavior included exercise motivation, social support and self efficacy. A review of studies (n=60) published between 1999 and 2005 identified the same key psychosocial correlates of
Children’s enjoyment of play during school lunchtime breaks

physical activity\textsuperscript{20} and suggested that further investigation into the psychosocial correlates of children and adolescent physical activity is still warranted.\textsuperscript{15, 20, 21}

More recently, research has examined the association between the psychosocial correlate ‘enjoyment’ and children’s physical activity. The connection between enjoyment and behavior change can be explained by the Self-Determination Theory (SDT) which outlines that if behavior such as physical activity is motivated by intrinsic factors (e.g. experiencing enjoyment after exercise) physical activity participation is more likely to be sustained than via extrinsic factors (e.g. obtaining rewards).\textsuperscript{22}

Enjoyment has been shown to be positively correlated with children’s motivation for involvement,\textsuperscript{23} and sustained participation in sport\textsuperscript{23} and physical activity.\textsuperscript{24, 25} There are numerous developmental physical and psychological benefits associated with an active lifestyle, however a ‘lack of enjoyment’ has been identified as a potential determinant of declining participation in physical activity.\textsuperscript{26} Similar to the Self-Determination Theory, The Youth Physical Activity Promotion (YPAP) model proposed by Welk suggests that if children enjoy participating in particular activities, they are more likely to engage in and maintain participation in those activities.\textsuperscript{27} This model is supported by Moore and colleagues’ suggestion that personal benefits associated with physical activity, especially enjoyment, are correlated with participation in physical activity.\textsuperscript{24} Enjoyment is derived intrinsically via kinaesthetic experiences and achievement of personal goals and extrinsically via social recognition and comparative achievement.\textsuperscript{28} Researchers define enjoyment of physical activity as “a positive affective response to an experience that reflects generalized feelings such as pleasure, liking, and fun (p.32).”\textsuperscript{28} Therefore, with so many experiences encountered by children from day to day, psychosocial influences on behaviour such as enjoyment are an important consideration when assessing the physical activity and health behaviour of children and adolescents.

A number of studies have recognised the positive association between children’s enjoyment of physical activity and participation. Di Lorenzo and colleagues\textsuperscript{29} examined the affects of a number of psychological and environmental variables on physical activity participation and reported that enjoyment was the main predictor of physical activity participation amongst children in grades five
Children’s enjoyment of play during school lunchtime breaks

and six. In addition, a study conducted over a decade ago revealed that enjoyment of physical education among school children was strongly correlated with increased physical activity levels\textsuperscript{30} and this correlation was recently reinforced in a study examining the association of structured physical activities with enjoyment of physical education.\textsuperscript{31} Other studies have also identified associations between enjoyment and correlates of physical activity including self-determination,\textsuperscript{32} motor skill proficiency,\textsuperscript{33} task orientation,\textsuperscript{34} self-efficacy,\textsuperscript{35} goal setting,\textsuperscript{35} and perceived competence.\textsuperscript{34}

School-based physical activity interventions have targeted enjoyment as a key psychosocial mediator of behavioural changes.\textsuperscript{25, 36} An intervention known as ‘Switch Play’ aimed to prevent unhealthy weight gain by reducing sedentary time in 10 year old children.\textsuperscript{25} Children reported high enjoyment levels and increased physical activity levels after the intervention.\textsuperscript{25} Measurement of children’s enjoyment is used not only as part of cross-sectional research when assessing correlates of physical activity but also when evaluating the effectiveness of physical activity interventions. However, many studies investigating enjoyment did not consider the extent to which measuring enjoyment may vary within and between school days.

No study we are aware of has assessed children’s enjoyment of lunchtime play, however instruments have been developed to identify children’s enjoyment of physical activity. Motl and colleagues refined the physical activity enjoyment scale (PACES) originally designed for college students to be suitable for adolescents by replacing a seven point scale with a five point scale.\textsuperscript{37} Within two studies targeting adolescent females, positive correlations between enjoyment of physical activity and self-reported physical activity, sports participation\textsuperscript{37} and physical activity increases via a school-based lifestyle intervention were reported.\textsuperscript{38} The PACES terminology was recently simplified and validated for younger children by Moore and colleagues.\textsuperscript{24} Data from the PACES validation study revealed strong correlations between children’s enjoyment of physical activity with children’s self-reported perceptions of task goal orientation, physical appearance, athletic competence and physical activity.\textsuperscript{24}

In contrast to the PACES instrument that measures enjoyment of being physically active in general, the present study assessed children’s enjoyment of lunchtime play during lunchtime breaks within the
Children’s enjoyment of play during school lunchtime breaks

school setting. Positive correlations exist between children’s enjoyment of physical activity and participation,\textsuperscript{24,25} yet little is known about children’s enjoyment of play during school lunchtime breaks, a major source of children’s physical activity, both on a single day and across days of the week.\textsuperscript{39}

Play during school lunchtime breaks is crucial for children’s development of cognitive, physical, social and emotional well-being\textsuperscript{16,40} and play has been acknowledged by the United Nations High Commission for Human Rights as an entitlement for every child.\textsuperscript{41} School lunchtime breaks provide children with an avenue to engage in unstructured active play that includes self-directed activities to build active, healthy bodies.\textsuperscript{16} When play is driven by children rather than adults, it allows children to pursue activities within the environment that interests them, which can develop decision making, negotiating and motor skills.\textsuperscript{16} Ultimately, the more positive responses (e.g. enjoyment) children experience via active play through avenues such as unstructured school lunchtime breaks the more likely children will adopt an active lifestyle and minimize the adoption of passive sedentary behaviours such as using electronic media for entertainment.\textsuperscript{16} More research relating to predisposing factors of physical activity such as enjoyment\textsuperscript{27} and their associations with play during school lunchtime are needed.\textsuperscript{12} Measuring children’s self-reported enjoyment of school lunchtime experiences may reflect the quality of the school play environment. A greater understanding of children’s enjoyment of play within the school context is an important consideration in future evaluations of interventions designed to improve or change play environments.\textsuperscript{37,38} Determining the consistency of children’s enjoyment of lunchtime play within and between school days may also provide evidence for health professionals and researchers of the frequency of measurement necessary to provide a representative assessment of children’s enjoyment of lunchtime play.

Recent studies have explored the intra\textsuperscript{42-44} and inter-day patterns\textsuperscript{45-47} of children’s physical activity across multiple school days. However, none of these studies considered children’s enjoyment levels. To our knowledge, no study has previously reported children’s enjoyment levels of school lunchtime play or age/sex-specific enjoyment of lunchtime play variability. The question of whether children’s
Children’s enjoyment of play during school lunchtime breaks

enjoyment of lunchtime play is representative of other school days is currently unknown. The purposes of the present study were to (i) examine children’s enjoyment of play during school lunch time, (ii) examine the intra- and inter-day reliability of children’s enjoyment of playing at lunchtime and (iii) examine the age and sex-specific intra- and inter-day variability of children’s enjoyment of lunchtime play.

Methods

During the pilot study, survey cards were administered to 107 grade 3-6 children (aged 8-12 years) in two elementary schools from regional Victoria. Children reported little concern or difficulty when using the small survey cards, therefore no changes were necessary for the current study which assessed enjoyment of lunchtime play. As children’s cognitive capabilities are developing during elementary school, the suitability of the survey cards for children aged under 10 years was deemed acceptable based on feedback from elementary school teachers after the initial pilot study. Additionally, face validity of the small survey card was reviewed by five physical activity experts with experience in the development of self-report measures.

Within the current study enjoyment of lunchtime play survey cards were administered to 197 children aged 8-12 years (112 males, 85 females) from a large government elementary school in regional Victoria, Australia. All grade 3 to 6 children were invited to participate in the study during Winter (June) in school Term 2, 2010 (response rate: 60.8%). Children’s ‘expected’ (before lunch) and ‘actual’ (after lunch) enjoyment of lunchtime play were measured and compared on each day over a five day period (35.9% missing responses). Completion of the survey cards took approximately 20 seconds and required children to circle on a five point likert pictorial scale how much they expected to enjoy lunchtime play or how much they actually enjoyed lunchtime play. The enjoyment item was rated on a five-point likert scale from very unhappy (1) to very happy (5). The card also recorded the student name, grade and day of the week. Demographic details such as the child’s age and sex were collected from a larger survey as part of the same research project being conducted at the elementary school.
Ethical approval for the study was obtained from the University Human Research Ethics Committee, the Department of Education and Early Childhood Development in Victoria (DEECD) and permission was gained from the school principal. Children and their parents received a plain language statement outlining the research, along with a participant and parental consent form.

Intra-day and inter-day reliability (including age & sex-specific reliability) of children’s enjoyment of lunchtime play were calculated using a Weighted Kappa (kw²) statistic for ordinal items. Kappa values were graded as slight agreement (0.01-0.20), fair agreement (0.21-0.40), moderate agreement (0.41-0.60), substantial agreement (0.61-0.80) and almost perfect agreement (0.81-0.99). The 95% confidence intervals of weighted kappa were based on the empirical sampling distribution generated by the computer intensive bias corrected bootstrapping re-sampling method. The Z statistic, which follows standard normal distribution with mean 0 and variance 1, was used to compare the level of reliability between sex and age groups. The values were set at a 5% level of significance.

Statistical Package for Social Sciences (SPSS) version 18 (SPSS Inc., Chicago, USA) was used to calculate the descriptive statistics and R version 2.12.0 (R Development Core Team, Vienna, Austria) was used for the weighted kappa statistics, 95% confidence intervals (CI) and reliability comparisons using Z statistic.

Results

Overall, both ‘expected’ and ‘actual’ enjoyment of lunchtime play was rated as very high or high (Table 1). Table 1 presents the intra-day reliability for the enjoyment of lunchtime play between school day one (Wednesday, week one) to school day five (Tuesday, week two). Monday displays substantial kappa agreement, Wednesday and Friday display moderate kappa agreement and Tuesday and Thursday display fair kappa agreement, between expected and actual enjoyment of lunchtime play scores. A decrease in the percentage of enjoyment of lunchtime play was evident from before lunch (expected play enjoyment) to after lunch (actual play enjoyment) across all days. Age and sex-specific intra-day variability in enjoyment of lunchtime play data is also presented (Table 2). Intra-day
variability was only significantly different between sexes on Monday (Day 4 of 5), \( (Z = 3.66; p < 0.001) \). Monday displayed the highest kappa agreement score for males (almost perfect agreement) and the lowest kappa agreement score for females (fair agreement). Although the intra-day variability was not significantly different on Wednesday, the highest agreement is displayed for females (moderate agreement) and the lowest kappa agreement for males (fair agreement). There were no significant differences in kappa scores between age groups, however the greatest differences in kappa agreement were evident for Tuesday \( (Z = 1.71; p = 0.09) \) and Thursday \( (Z = 1.01; p = 0.31) \). Kappa agreement scores were highest for both age groups on Monday \( (Z = 0.24; p = 0.81) \).

Inter-day reliability of children’s enjoyment of lunchtime play results (Table 2) indicate ‘expected’ enjoyment of lunchtime play between each of the five days failed to reach moderate kappa agreement, ranging from 0.09 to 0.40 (median kappa=0.30). Similarly low ‘actual’ inter-day reliability scores for enjoyment of lunchtime play were identified, ranging from 0.05-0.46 (median kappa=0.28). The lowest ‘expected’ inter-day reliability was between Wednesday and Monday (slight agreement) and the highest ‘expected’ inter-day reliability was between Monday and Friday (fair agreement). In contrast, the lowest ‘actual’ inter-day reliability was identified between Tuesday and Wednesday (slight agreement) and the highest ‘actual’ inter-day reliability was identified between Wednesday and Friday (moderate agreement). No significant differences were identified for age or sex-specific inter-day comparisons (including 79\% (63/80) of inter-day comparisons failing to reach moderate reliability), therefore age and sex-specific inter-day lunchtime play enjoyment comparisons are not presented.

Discussion

Previous physical activity literature would indicate that the high levels of ‘expected’ and ‘actual’ enjoyment of lunchtime play from this study could be correlated with high physical activity participation.\(^ {24,25} \) Future research investigating correlations between children’s enjoyment of lunchtime play and physical activity participation is therefore warranted. This study identifies the high levels of children’s enjoyment of lunchtime play among a sample of elementary school children.
Given the concerns regarding the declining levels of physical activity among adolescents\textsuperscript{53, 54} it may be beneficial to examine adolescents’ enjoyment of school breaks within a secondary school context.

As this is the first study of its kind, we acknowledge that future research should be conducted to further identify patterns of children’s enjoyment of lunchtime play; however the large sample size is a strength of the study. In addition, future research is needed to identify the sources and influences of children’s enjoyment of lunchtime play. A limitation of the study was the high number of missing responses across the five days, however as the research was conducted within a usual school environment children are absent from school throughout a week for a variety of reasons. It should also be noted that because the research was conducted within a single elementary school, any generalizing of findings are not necessarily representative of the wider population.

Examination of children’s intra-day and inter-day enjoyment of lunchtime play suggests that children’s expected and actual enjoyment of lunchtime play is relatively consistent within a single day. However, reliability is lower when comparing children’s enjoyment scores of lunchtime play across multiple school days. The higher reliability of children’s enjoyment of lunchtime play within a single day may suggest that multiple influences on children’s enjoyment within a single school day may cause less variation than across multiple school days. Alternatively it could also mean children can easily remember what their expected enjoyment was when rating their actual enjoyment, potentially biasing the response.

A theoretical framework that could explain the variation in enjoyment from day to day is the social-ecological model.\textsuperscript{55} The social-ecological model indicates that multiple influences such as intrapersonal (individual), interpersonal (social), physical environment and policy factors within a setting can be modified and affect children’s behaviour.\textsuperscript{55} Intrapersonal influences on behaviour includes changes in an individual student’s mood; interpersonal influences include variation in family circumstances, behaviour and mood of teachers/peers; physical environment influences include variation in climatic conditions, children’s access and availability of play spaces/activities and policy influences may include different/quantity of teachers supervising the playground, changes to rules and
access to sports and play equipment or play area allocation by year level. With so many potential
influences on children’s behaviour from day to day, these factors could be major factors contributing
to the low kappa values between days (including 79% of age and sex-specific inter-day kappa
comparisons failing to reach moderate reliability).

The higher reliability for enjoyment of lunchtime play at the beginning of the study (Wednesday,
Week 1) and at the beginning of a school week (Monday, Week 2) may reflect that reliability
decreases when self-report measures are repeated each day. Children had completed the enjoyment of
lunchtime play survey card for the first time on the Wednesday and on the Monday children had
experienced the weekend break. In contrast, when the administration of the survey cards were
repeated the day after the start of the study and school week, on the Thursday (Week 1) and Tuesday
(Week 2), the intra-day reliability dropped from substantial and moderate reliability to a fair level.
Although intra-day reliability for Friday (Week 1) was moderate, the findings suggest that reliability
may be increased if administration of the self-report is spaced out over time, rather than repeating
each day.

It should be acknowledged that the lower intra-day reliability (fair) of lunchtime enjoyment scores on
the final day (Tuesday) could be attributed to five days being too many days of repeated measures.
Thursday (Day 2) could also have been affected by the cooler weather (maximum temperature
<10°C), as the mean maximum temperature for the other four days was 11.7°C (sd=0.76).
Temperature variation has been found to influence children’s physical activity\textsuperscript{12,56} and this could also
be the case for correlates of physical activity such as enjoyment of play. In addition, it should also be
noted that lower percentages of ‘actual’ enjoyment of play after lunch may suggest children could be
more optimistic about enjoying lunchtime play before lunchtime commences. This would be due to
children being unable to predict or take into account potential influences on their play that can occur
during lunchtime breaks that may affect their level of enjoyment.
The greatest intra-day kappa score differences between males and females earlier in the week could indicate that administering self-report measures earlier in the school week may detect greater sex differences than later in the school week. This is reinforced by a significant kappa score difference between males and females for Monday (day four). Before children experience the demands of different subjects, homework and other school commitments of the school week, children could be taking more time and be more specific when rating the enjoyment of lunchtime play survey, resulting in the sex differences in kappa scores being more identifiable. Another possibility could be due to Monday (day four) and Tuesday (day five) being the final two days of the study and having completed repeated measures over the previous three days may have resulted in one of the sex’s being less accurate in self-reporting their enjoyment of lunchtime play during the fourth and fifth days of survey administration. In other words, the boys quite simply may have been ‘over it!’ Evidence also suggests males and females participate in and prefer different physical activities and behaviour during school lunchtime play, which could have influenced sex-specific differences in kappa agreement. Interestingly, female enjoyment scores were most reliable and males were least reliable during the start of the study (Wednesday/Day one) between ‘expected’ and ‘actual’ enjoyment of lunchtime play. In contrast, male enjoyment of lunchtime play scores contained ‘almost perfect’ reliability at the start of the school week (Monday/Day four), the day in which females possessed their lowest reliability (fair agreement) between ‘expected’ and ‘actual’ enjoyment of lunchtime play.

An important finding from the study was the similar kappa agreement scores between the 8-9 and 10-12 year old age groups. Although previous research that has examined enjoyment of sport and physical activity suggests that children’s sources of enjoyment varies with age, reliability comparisons between the age groups were relatively consistent. Similar to the males, both age groups possessed enjoyment of lunchtime play scores that displayed very high reliability on Monday (substantial agreement) and the high intra-day reliability for both age groups on Monday may suggest that administering self-report enjoyment measures on a Monday could strongly represent enjoyment of play throughout that school day.
This is the first study we are aware of to examine the intra-day and inter-day reliability of enjoyment of lunchtime play. There is a lack of consensus as to how many days of measurement are required to assess children’s enjoyment of lunchtime, therefore a typical school week (five days) was chosen. The moderate intra-day reliability of enjoyment of lunchtime play for three out of five school days suggests that assessing children’s enjoyment of play after lunch would be representative of enjoyment of lunchtime play on that particular day, but not necessarily that school week. It should be acknowledged this study relied on children under 12 years of age accurately predicting and recalling enjoyment play during school lunchtime. Concerns have previously been raised about using self-report instruments with elementary aged children, however we minimized this potential complication by piloting the survey cards and by considering the format of the questionnaire and employing the use of a pictorial scale using developmentally appropriate images of smiley faces.

Conclusion

In summary, this research addresses a significant gap in the literature by examining the reliability of children’s enjoyment of lunchtime play across multiple days. The level of reliability between children’s ‘expected’ and ‘actual’ enjoyment of lunchtime play scores reached at least moderate agreement for most days. This acceptable agreement within most of the school days suggests that measuring children’s ‘expected’ or ‘actual’ enjoyment of lunchtime play is likely to represent that particular school day. In contrast, only a very small proportion of inter-day comparisons for enjoyment of lunchtime play reached a moderate level of reliability. This may indicate that factors influencing children’s experiences from day to day may affect the variation of enjoyment scores on other school days and therefore may not necessarily be representative of children’s enjoyment of lunchtime play across different days of the week. Generally, children expected to enjoy lunchtime play in greater proportions than they actually did, indicating children expect to have a positive experience during their school lunchtime play. The findings suggest that age didn’t appear to affect the reliability of enjoyment scores in the sample surveyed, however sex can be an influential factor on the overall reliability of a group’s enjoyment of lunchtime play.
Children’s enjoyment of play during school lunchtime breaks

1  **Practical implications**
2  
3      • The reliability of children’s enjoyment of lunchtime play within a single day suggests that measurement once on a single day would be representative of that particular day but not necessarily that school week.
4  
5      • The findings suggest that future physical activity interventions targeting school lunch periods should consider spacing out the assessment of enjoyment across multiple days.
6
7
8  **Acknowledgements**
9  We thank the regional elementary school for enabling us to invite their students to participate and the students for their involvement in the study. The data collection process for this research was conducted whilst XXXX and XXXX were based at the University of XXXX. The write up of this research was conducted at XXXX University. We would also like to acknowledge Professor Geraldine Naughton for suggesting the concept for this research.
Children’s enjoyment of play during school lunchtime breaks

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Children’s enjoyment of play during school lunchtime breaks


Children’s enjoyment of play during school lunchtime breaks


Children’s enjoyment of play during school lunchtime breaks


52. Vanbelle S. Agreement between raters and groups of raters [PhD]: Faculty of Science, University of Liege; 2009.
Children’s enjoyment of play during school lunchtime breaks


Table 1: Intra-day reliability including age and sex-specific intra-day variability (weighted kappa (95% CI)) of children’s enjoyment of school lunchtime play.

<table>
<thead>
<tr>
<th>Day</th>
<th>‘Expected’ Enjoyment of Lunchtime Play</th>
<th>‘Actual’ Enjoyment of Lunchtime Play</th>
<th>Intra-day variability (weighted kappa (95% CI))</th>
<th>Intra-day Reliability</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Male (Weighted Kappa (95% CI))</td>
<td>Female (Weighted Kappa (95% CI))</td>
<td>Z</td>
<td>P Value†</td>
</tr>
<tr>
<td></td>
<td>VH/H %</td>
<td>NS %</td>
<td>VU/U %</td>
<td>VH/H %</td>
</tr>
<tr>
<td>Wednesday (1)</td>
<td>94.7</td>
<td>4.3</td>
<td>1.0</td>
<td>88.1</td>
</tr>
<tr>
<td>Thursday (2)</td>
<td>93.0</td>
<td>5.4</td>
<td>1.6</td>
<td>91.7</td>
</tr>
<tr>
<td>Friday (3)</td>
<td>89.9</td>
<td>7.2</td>
<td>2.9</td>
<td>84.7</td>
</tr>
<tr>
<td>Monday (4)</td>
<td>93.9</td>
<td>3.0</td>
<td>3.1</td>
<td>89.8</td>
</tr>
<tr>
<td>Tuesday (5)</td>
<td>95.5</td>
<td>3.6</td>
<td>0.9</td>
<td>86.2</td>
</tr>
</tbody>
</table>

CI= confidence interval; Day 1-5 represents the order of testing with the first day of testing beginning on a Wednesday

Z= Standard Normal variate; † P value from the standard normal test (Z test); CI= confidence interval; *= Significant difference

VH/H= Very Happy/Happy; NS= Not Sure; VU/U= Very Unhappy/Unhappy
Table 2: Inter-day reliability of children’s enjoyment of school lunchtime play. The upper panel shows the ‘expected’ and the lower panel shows the ‘actual’ enjoyment of lunchtime play.

<table>
<thead>
<tr>
<th>Weighted Kappa (95% CI)</th>
<th>Wednesday (1)</th>
<th>Thursday (2)</th>
<th>Friday (3)</th>
<th>Monday (4)</th>
<th>Tuesday (5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CI= confidence interval; Day 1-5 represents the order of testing with the first day of testing beginning on a Wednesday</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>0.35 (0.10 - 0.57)</td>
<td>0.25 (0.06 - 0.43)</td>
<td>0.10 (-0.09 - 0.36)</td>
<td>0.46 (0.20 - 0.70)</td>
<td>0.09 (-0.10 - 0.30)</td>
<td>0.16 (0.01 - 0.31)</td>
</tr>
<tr>
<td>0.37 (0.15 - 0.57)</td>
<td>0.19 (-0.02 - 0.49)</td>
<td>0.33 (0.08 - 0.55)</td>
<td>0.09 (-0.06 - 0.30)</td>
<td>0.28 (0.19 - 0.39)</td>
<td>0.28 (0.19 - 0.39)</td>
</tr>
<tr>
<td>0.14 (-0.08 - 0.41)</td>
<td>0.44 (0.10 - 0.72)</td>
<td>0.40 (0.17 - 0.62)</td>
<td>0.31 (0.19 - 0.56)</td>
<td>0.31 (0.19 - 0.56)</td>
<td>0.31 (0.19 - 0.56)</td>
</tr>
<tr>
<td>0.40 (0.10 - 0.72)</td>
<td>0.44 (0.10 - 0.72)</td>
<td>0.31 (0.19 - 0.56)</td>
<td>0.31 (0.19 - 0.56)</td>
<td>0.31 (0.19 - 0.56)</td>
<td>0.31 (0.19 - 0.56)</td>
</tr>
<tr>
<td>0.37 (0.11 - 0.65)</td>
<td>0.14 (-0.08 - 0.41)</td>
<td>0.09 (-0.06 - 0.30)</td>
<td>0.28 (0.19 - 0.39)</td>
<td>0.28 (0.19 - 0.39)</td>
<td>0.28 (0.19 - 0.39)</td>
</tr>
</tbody>
</table>