THE IMPACT OF EXTRACURRICULAR ACTIVITIES ON STUDENT OUTCOMES

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Dave Michalkiewicz										
2015										

Abstract

THE IMPACT OF EXTRACURRICULAR ACTIVITIES ON STUDENT OUTCOMES

Dave Michalkiewicz

Under the Supervision of Joan E. Riedle,

Professor of Psychology at the University of Wisconsin-Platteville

Abstract

This action research project evaluated the impact of extracurricular activities on student outcomes. Students in the freshmen class of the 2015-2016 school year at Fond du Lac High School were monitored for participation in sport and non-sport extracurricular activities and for progress in GPA, discipline referrals, attendance, and school engagement during the 2015-2016 school year. Students experienced a positive relationship between school engagement, GPA, and attendance when participating in at least one extracurricular, and a negative relationship with discipline referrals when participating in at least one extracurricular. Suggestions for future research are included.

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CHAPTER I: INTRODUCTION

My research focused on the relationship between extracurricular activities, student academic achievement, and risk behaviors at Fond du Lac High School.

Extracurricular activities include sports, academic clubs, music, drama, and student government. Many studies have been done to examine the relationship between participation in extracurricular activities and academic achievement, but few have looked at socioeconomic variables, the impact of different extracurricular activities (sports vs. non-sports), and the impact of differing numbers of activities (none, single, and multiple). Silliker and Quirk (1997) found that participation in extracurricular activities supports a positive relation between higher academic achievement, school attendance, and reduced delinquency, and is the variable most predictive of success later in life. Howard and Ziomek-Daigle (2009) also examined the relationship between extracurricular participation and academic success and school engagement. They found that participants who were previously uninvolved in extracurricular activities have a boost in academic achievement, but not a significant change with their relationship or engagement to the school environment.

Statement of the Problem

My research built upon the research of Silliker and Quirk (1997) and Howard and Ziomek-Daigle (2009) by examining the relationship between extracurricular participation and academic achievement and risk behaviors during the 2015-2016 school year at the Fond du Lac High School. I hypothesized that freshman students who participated in extracurricular activities (sports and non-sports) during the 2015-2016 school year saw a positive relationship between academic achievement and school engagement, and a negative relationship with discipline and risk behaviors. Students with lower socio-economic status (SES) have less access to out-of-

school extracurricular activities, so in-school extracurricular activities may be more important.

Did SES predict the level of engagement?

Definition of Terms

Extracurricular Activities: Not falling within the scope of a regular curriculum; specifically: of or relating to officially or semiofficially approved and usually organized student activities connected with school and usually carrying no academic credit (Merriam-Webster, n.d.).

Academic Achievement: The outcome of a student's education that is measured by GPA.

Discipline Referrals: A form that a teacher or other school personnel writes up when he/she needs the principal or school disciplinarian to deal with a student issue. A referral typically means that the issue is a serious issue or it is an issue that the teacher has tried to handle without any success (Meador, 2015).

Delimitations and Limitations of the Research

There are two delimitations to extracurricular activities research at Fond du Lac High School.

- I have limited the scope of my study to the incoming freshmen class at Fond du Lac High School.
- 2. I have limited my research time period to one school year (2015-2016). This is necessary to allow for the research to be completed by the end of the spring of 2016 to allow me to finish the research paper for my Educational Administrative degree.

There are two limitations to extracurricular activities research at Fond du Lac High School.

- 1. The lack of a control group created a limitation in understanding if the independent variable truly impacts the dependent variables.
- 2. When examining the participants, their emotional maturation and historical experience in the classroom and with extracurricular activities may impact the results of the study.

What was the participant's experience with extracurricular activities and education before they entered Fond du Lac High School?

Method of Approach

I examined the relationship between extracurricular participation, academic achievement and risk behaviors during the 2015-2016 school year at the Fond du Lac High School. I examined academic achievement, school engagement, discipline referrals, free and reduced lunch information, and school attendance records. The IRB approval letter is attached as Appendix A. Project data collection materials are attached as Appendix B.

CHAPTER II: REVIEW OF THE LITERATURE

Research Question

My research focused on the relationship between extracurricular activities, student academic achievement, and risk behaviors at Fond du Lac High School.

Discussion of Prior Research

Kronholz (2012) explored the role and value of non-academic extracurricular activities in the educational setting. She interviewed staff in school districts that were dealing with budget shortfalls, and they discussed what areas of the budget should be reduced to close the funding gap. The areas examined were salaries, benefits, and student activities. Kronholz then proceeded to look at the angles of the discussion on the academic value of extracurricular activities. She asked the question, "Did kids who joined afterschool activities become good kids or do good kids join afterschool activities? (Kronholz, p.10)." Kronholz examined information from the National Center for Children and Families, the National Education Longitudinal Study, a number of other independent researchers, and post-secondary education surveys which all concluded that participation in extracurricular activities increases engagement, achievement, and college and career readiness soft skills (e.g. time management, communication skills, and leadership skills). In her discussion, she explored many ideas regarding how extracurricular activities positively influence students in the academic setting. Kronholz's analysis also explored different ways to collect information when examining the importance of extracurricular activities.

Guevremont, Findlay, and Kohen (2013) explored in-school and out-of-school extracurricular activities and if they have different outcomes on Canadian youth. They examined three different student outcomes: socioemotional, academic, and risk behaviors. To examine the socioemotional impact of extracurricular activities, both in-school and out-of-school, they used a

survey that assessed emotional-anxiety, pro-social behavior, hyperactivity, physical aggression, self-image, and depression. When examining the academic outcomes of the participants, they used parent and student surveys, along with modified national exams to measure academic development. The risk behaviors that Guevremont et al. examined included if participants had tried smoking, alcohol, or other drugs, while participating in extracurricular activities.

Guevremont et al. found that participation in extracurricular activities, either in-school or out-of-school, has a positive impact on socioemotional and risk behavior outcomes. However when participation was only for in-school sports activities, the results revealed a negative impact in the academic achievement area.

Howard and Ziomek-Daigle (2009) examined the relationship between academic achievement, school bonding, and the extracurricular activity participation on students who are not previously involved in extracurricular activities. They developed a support group for the uninvolved students, entitled program F.R.E.E., which focused on establishing good school habits and communication skills, and on participation in student progress meetings, college tours, and community activities. Howard and Ziomek-Daigle focused on the possible effect of the support group on school bonding and academic achievement. School bonding was measured on the School Attachment Questionnaire, which produced scores on commitment, attachment, involvement, and belief in school rules. Academic achievement was measured through collecting the grades of the participants before the implementation of the support group and then monitoring and collecting grades at the six, nine, and twelve week marks. School bonding was found to not have any significant change from before and after involvement of the participants in the support group. Academic achievement showed an improvement during the course of the support group for the students involved. Thus Howard and Ziomek-Daigle (2009) documented a

relationship between extracurricular activities and on student achievement, but not between extracurricular activities and school bonding.

O'Brien and Rollefson (1995) examined extracurricular participation and student engagement. They examined information that was available through the National Center for Education Statistics (NCES). They examined the idea that extracurricular activities provide a channel for reinforcing the lessons learned in the classroom. O'Brien and Rollefson found that senior students who had participated in extracurricular activities had fewer unexcused absences, higher GPA's, higher achievement on national exams, and higher expectations of earning a bachelor's degree or higher. O'Brien and Rollefson examined the availability of extracurricular activities to students based on school size and socio-economic status (SES) and found that all schools had extracurricular activities, but the number of activities may be different. The last area that they examined was the impact of SES on student participation. Students with low SES were more likely participate when they were in the majority of the population but were less likely not participate when in the minority (Karweit, 1983, as cited by O'Brien and Rollefson).

Turner (2010) examined whether high school students who participated in extracurricular activities displayed higher academic achievement. Turner examined programs that promoted achievement, such as Promoting Achievement in School through Sports (PASS) and a no-pass no-play policy, which were put in place to motivate students to improve grades in order to be allowed to participate. Turner examined two different high schools in Texas. School A had 31 participants, while School B had 62 participants. After gathering grades of students who were involved in extracurricular activities and students who were non-participants he concluded that students who participated were achieving at a higher level academically. Thus Turner also documented a relationship between extracurricular activities and academic achievement.

Silliker and Quirk (1997) examined the literature regarding whether extracurricular participation enhanced the performance of high school students. Extracurricular participation has a positive relationship with GPA (Eidsmoe, 1961, 1964, as cited in Silliker & Quirk, 1997), school attendance (Jable, 1986; Laughlin, 1978, both as cited in Silliker & Quark, 1997), reduced delinquency (Landers & Landers, 1978, as cited in Silliker & Quark, 1997), and is the variable most predictive of success in later life (Joekel, 1985, as cited in Silliker & Quark, 1997). They also reported limitations in the literature. The limitations that were stated were, little research on nonathletic activities (Otto & Alwin, 1977, as cited in Silliker & Quark, 1997), researchers had not taken into account variables such as socioeconomic status, school size, extent of student participation, and student self-esteem (Holland & Andre, 1987, as cited in Silliker & Quark 1997), and that the studies has participation selection issues, hand picking only certain activities, instead of examining all extracurricular activities that the organization or school offers. (Heppner, Kivlighan, & Wampold, 1992, as cited in Silliker & Quark 1997). Silliker and Quirk then selected participants for their study who were high school soccer participants and who did not participate in a second activity. The school counselors of each participant were asked to collect the data needed on all participants. The data collected were gender, grade level, 1st quarter GPA, 2nd Quarter GPA, and total absences. Their results showed that the participants had higher a GPA, and higher attendance during the quarters when participating in an extracurricular activity verses when not participating. Thus Silliker and Quirk's research further documented the relationship between participation in extracurricular activities and academic achievement among the participants.

Summary

Clearly there is a relationship between participation in extracurricular activities and academic achievement. The areas of research that are not as well-known include the impact of socioeconomic variables, the impact of different types of extracurricular activities (sports vs. non-sports), and the impact of differing numbers of activities (none, single, and multiple). I proposed to examine the relationship between extracurricular participation and the four areas discussed above (academic achievement, socioeconomic variables, sports vs. non-sports participants, and number of activities). The focus of my research was on the relationship between extracurricular activities (sport and non-sport) and student academic achievement and risk behaviors at Fond du Lac High School.

Hypotheses

I hypothesized that the participation of freshman students in extracurricular activities (sports and non-sports) during the 2015-2016 school year would have a positive relationship with academic achievement and school engagement, and a negative relationship with discipline and risk behaviors. Students with lower socio-economic status (SES) have less access to out-of-school extracurricular activities, so in-school extracurricular activities may be more important. Consequently, I explored whether SES predicted the level of engagement. I also measured and examined the impact of the number of activities students participated on academic achievement, school engagement, and discipline referrals.

Chapter III: Method

Participants

Research was conducted at an urban school district in Eastern Wisconsin. The district is comprised of 15 school buildings: ten elementary buildings, four middle school buildings, and one high school building, serving 7300 students.

Students participating in the research were the incoming freshmen class for the 2015-2016 school year. The freshmen class for the 2015-2016 school year had a total enrollment of 517 students. The number of male students who participated was 273 (53%), while the number of female students who participated was 244 (47%). The largest ethnic group was Caucasian with 76%, with the next largest being Hispanic with 12%. The average age of the participants was 14 years old.

Materials

The information that was collected included student participation in extracurricular activities, student grades, school engagement questionnaires, discipline referrals, free and reduced lunch data, and attendance reports. Data was collected from the beginning (September) through the end (May) of the respective school year.

Student grades were collected at the end of the school year, and compared to determine the relationship between extracurricular activities and academic achievement.

School engagement data was collected through a School Engagement Survey that was administered during the 1st quarter and during the 4th quarter to examine the relationship between extracurricular activities and school engagement; this survey was a modification of one designed by Howard and Ziomek-Daigle (2009). The survey was divided into four sections:

commitment (questions 1-5), attachment (questions 6-10), involvement (questions 11-15), and belief in school rules (questions 16-20). Students answered each question with a 1 if they agreed with the statement and a 0 if they disagreed with the statement. After the survey was given in the fourth quarter the data were compared to the answers given during the first quarter to examine the relationship between extracurricular activities and school engagement.

Discipline referrals were collected during each academic quarter and compared to examine the relationship between extracurricular activities and discipline referrals. Free and reduced lunch data was collected during the first quarter and used to examine the relationship between socio-economic status and participation in extracurricular activities.

Attendance records (absences and tardies) were collected during each academic quarter to examine the relationship between participation in extracurricular activities and attendance records.

Extracurricular rosters and club lists were used to collect the number of activities in which a student participated.

Procedures

Before the research began I first received permission from my building principal to collect and research extracurricular participation's impact on academic achievement, student engagement, discipline referrals, and attendance reports. Once permission was received from the school, I proceeded to receive permission from parents and guardians to collect and analyze their child's data by sending out and collecting the Parent/Guardian consent form for participation of human participants. Then I proceeded to send out the student assent form for parents to allow for their student to participate in research.

During the first quarter of the 2015-2016 school year, I prepared, administered, and collected data from the student School Engagement Survey. To protect the student's identity a data key code was prepared for each participant on the separate data sheet. Each student was assigned a number on the data collection sheet instead of his or her name. The data key code was stored separately from the data collection sheet.

During the 2015-2016 school year, data was collected on student extracurricular participation, student grades, results from the student engagement survey, discipline referrals, free and reduced lunch information, and attendance reports for the school year. This data was collected using athletic and club rosters, grading information for Skyward (school information program), WIAA participation reports, student engagement survey, and Wisconsin Information System for Education Data Dashboard. The data was collected and placed in a data collection form and analyzed for growth or regression.

CHAPTER IV: RESULTS

Results

When examining the economic status, attendance data, and school engagement change score that was collected during the research of this project the data needed to be grouped to allow for the data to be useful when the results were completed. The economic status data was organized so that a student that had received free or reduced lunch would receive a one and students who did not receive free and reduced lunch would receive a two in their appropriate column. The attendance data was organized to show the total percentage of days that the student was in school. If the student was in school for all the school days or 100%, the student would receive a score of ten in his or her appropriate column on the data sheet, while if he or she was in attendance for 99% - 90% he or she received 9 points and so on down. The school engagement change score was determined by subtracting the student survey results from the September surveys from the student survey results collected in the May survey; a positive score would indicate an increase in school engagement.

I conducted a regression with average GPA, participation in non-sport extracurricular, sports extracurricular, socio-economic status, number of discipline referrals, and attendance as predictors of change in school engagement scores and found that the predictors were significantly related to level of change, F(6, 468) = 29.685, p < .001, $R^2 = .28$. See Table 1.

Table 1

Regression of Eight Predictors on Change in School Engagement (N = 475)

Variable	В	SE B	β	t	p
Constant	-0.44	1.11			
Attendance	-0.25	0.13	09	-1.91	.06
Sports Participation	0.24	0.09	.11	2.68	.008
Non-Sport Participation	0.41	0.19	.09	2.12	.03
Socio-Economic Status	0.15	0.21	.03	0.69	.49
Discipline Referrals	-0.06	0.03	09	-1.98	.05
Average GPA	1.12	0.12	.45	9.14	.001

Note: $R^2 = .28 (p < .05)$.

School engagement change scores were positively related to GPA, sports participation, and non-sport participation, and negatively related to referrals. The negative relationship of school engagement change scores and attendance approached significance.

To further explore the importance of extracurricular participation a one-way analysis of variance was conducted with participation in sports as the independent variable. The four scores from the attendance, average GPA, discipline referrals, and changes in school engagement score were my dependent variables. The main effect of sports participation was significant on attendance, F(4, 511) = 6.11, p < .001; post hoc LSD comparisons indicated that students participating in no sports had a significantly lower rate of attendance than students participating in one, two, or four sports (ps < .05). Students who participated in one or more sports did not

differ from each other. The relevant means are reported in Table 2. The main effect of sports participation was significant on GPA, F(4,511)=17.74, p<.001; post hoc LSD comparisons indicated that students participating in no sports had a significantly lower GPA than students participating in one, two, three, or four sports (ps<.05).). Students who participated in one or more sports did not differ from each other. The main effect of sports participation was significant on discipline referrals, F(4,510)=2.62, p=.04; post hoc LSD comparisons indicated that students participating in no sports had a significantly lower number of discipline referrals than students participating in one sport (p<.05).). Students who participated in one or more sports did not differ from each other. The main effect of sports participation was significant on school engagement change scores, F(4,471)=12.58, p<.001; post hoc LSD comparisons indicated that students participating in no sports had a significantly lower change in engagement scores than students participating in one, two, three, or four sports (ps<.05).). Students that participated in one or more sports did not differ from each other.

Table 2

Means and Standard Deviations for Sport Participation Groups on Four Dependent Variables

	N	Mean	Standard Deviation	
Attendance				
0 Sports	342	8.58	1.03	
1 Sport	81	8.99	0.66	
2 Sports	50	9.02	0.25	
3 Sports	20	8.90	0.55	
4 Sports	23	9.04	0.71	
GPA				
0 Sports	342	2.52	1.06	
1 Sport	81	3.16	0.67	
2 Sports	50	3.33	0.55	
3 Sports	20	3.32	0.50	
4 Sports	23	3.32	0.52	
Discipline Refe	rrals			
0 Sports	341	1.62	4.10	
1 Sport	81	0.53	1.26	
2 Sports	50	0.78	2.92	
3 Sports	20	0.15	0.49	
4 Sports	23	0.70	1.29	
School Engagen	nent Change Score	2		
0 Sports	306	0.42	2.40	
1 Sport	80	1.78	2.17	
2 Sports	48	2.27	1.87	
3 Sports	19	2.16	1.57	
4 Sports	23	1.48	1.81	

The one-way analysis could not be conducted exploring non-sports extracurricular participation due to an insufficient number of participants.

CHAPTER V: DISCUSSION

The purpose of my study was to examine the impact of extracurricular activities on student outcomes. Students in the freshmen class of the 2015-2016 school year at Fond du Lac High School were monitored for participation in sport and non-sport extracurricular activities and for progress in GPA, discipline referrals, attendance, and school engagement.

The results from my research did indicate that there is a positive relationship between participation in extracurricular activities and academic achievement, attendance and school engagement, with a negative relationship in regards to participation in extracurricular activities and discipline referrals. Through the completion of a regression with average GPA, participation in non-sport extracurricular, sports extracurricular, socio-economic status, number of discipline referrals, and attendance as predictors of change in school engagement scores, I found that the predictors were significantly related to level of change. School engagement change scores were positively related to GPA, sports participation, and non-sport participation, and negatively related to referrals. The negative relationship of school engagement change scores and attendance approached significance. The research showed a relationship between students sports participation in at least one activity significantly increased attendance, average GPA, school engagement change scores, while significantly lowering discipline referrals. Though there was no significant impact whether the student participated in one, two, three, or four sports.

I hypothesized that the participation of freshman students in extracurricular activities (sports and non-sports) during the 2015-2016 school year would have a positive relationship with academic achievement and school engagement, and a negative relationship with discipline and risk behaviors. My hypothesis was consistent with results from O'Brien and Rollefson (1995) who found that senior students who had participated in extracurricular activities had fewer

unexcused absences, higher GPA's, higher achievement on national exams, and higher expectations of earning a bachelor's degree or higher. My results are also consistent with Turner (2010) who found students who participated were achieving at a higher level academically. Thus, Turner also documented a relationship between extracurricular activities and academic achievement. Lastly, my results were consistent with Silliker and Quirk (1997) who found that participants had higher GPA and higher attendance during the quarters with extracurricular activity verses when not participating. Thus, Silliker and Quirk's research further documented the relationship between participation in extracurricular activities and academic achievement among the participants. While my hypothesis was consistent in a few areas with Guevremont et al. (2013), specifically in the area of risk behavior and the negative impact between participation in extracurricular activities and discipline referrals, but my research was not consistent with the findings that students who participate in sports activities have a negative impact on academic success. Howard and Ziomek-Diagle's (2009) research was also consistent with the results found in this action research, specifically in the area of a relationship between students involved in extracurricular activities and student achievement, but not between extracurricular activities and school bonding or engagement as found in the action research of this project.

One of the implications of the findings of this study is that when examining ways to improve student engagement and student learning, participation in extracurricular activities is an area that may be used to improve the student engagement and student learning, though correlational design cannot establish whether or not the relationship is causal. This train of thought is consistent with what the other researchers have been studying, specifically Silliker and Quirk (1997) which examined student achievement, attendance, and discipline referrals, and Howard and Ziomek-Diagle (2009) examined the relationship between academic achievement

and school engagement. My results are consistent with the positive relationship between achievement and attendance, and negative relationship with discipline referrals. My results show a positive relationship between participation in extracurricular activities and school engagement. With the findings in this research, we as educators should be encouraging students to participate in at least one extracurricular activity because students involved in extracurricular activities have shown to have an increase student engagement in the school environment, increase average GPA, attendance, and reduce discipline referrals.

When examining limitations of the study, the following are areas that could be considered: I have limited the scope of my study to the freshmen class at Fond du Lac High School, in order to make the research more manageable with class sizes in the district reaching as high as 600 students. Another limitation of my research was that the time period was limited to one school year (2015-2016). This was necessary to allow for the research to be completed by the end of the spring of 2016 to finish the research paper for my Educational Administrative degree. Further study will need to be completed to understand the full impact of non-sport participation on student outcomes.

CHAPTER VI: REFERENCES

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APPENDIX A: IRB APPROVAL LETTER



9/17/2015

David Michalkiewicz Sponsor: Dr. Joan E. Riedle

Department of Masters of Science - Education

University of Wisconsin-Platteville

RE: IRB Protocol #2015-16-05

Project Title: Impact of Extracurricular Participation on Students

Approval Date: 9/17/2015 Expiration Date: 9/16/2016

Your project has been approved by the University of Wisconsin-Platteville IRB via a Full Board Review. This approval is subject to the following conditions, otherwise approval may be suspended:

- 1. No participants may be involved in the study prior to the IRB approval date listed above or after the expiration date.
- 2. All unanticipated or serious adverse events must be reported to the IRB.
- 3. All modifications to procedures, participant selection, and instruments used (surveys, consent forms, etc) must be reported to the IRB chair prior to their use. Extensive modifications may require full board approval.
- 4. If the project will continue beyond the expiration date, then the researcher must file for a continuation with the IRB at least 14 days prior to the expiration date. If the IRB approval for this project expires before approval for continuation is given, then a new protocol must be filled out and submitted. Federal guidelines allow for no exceptions to this rule. Any data collected after the expiration date cannot be used in the study.

If you have any questions, please contact the IRB chair at the address below. Include your protocol # on all correspondence.

Sincerely,

Dr. Barb Barnet

Institutional Review Board Chair Professor, Mathematics Department

Gardner 451 University of Wisconsin-Platteville

(608) 342-1942

barnetb@uwplatt.edu

Dr Bab Bomet

1 University Plaza | Platteville WI 53818-3099 | www.uwplatt.edu

APPENDIX B: PROJECT MATERIALS

Fond du Lac School District

FOND DU LAC HIGH SCHOOL

801 Campus Drive • Fond du Lac, WI 54935

Office: (920) 929-2740 Fax: (920) 929-6964

July 23, 2015

To whom it May Concern:

I give consent for Dave Michalkiewicz to conduct his research project on the impact of extracurricular activities on student achievement, while collecting data on student grades, student engagement, discipline referrals, free and reduced lunch information, and attendance.

I look forward to being able to use this data to improve our educational setting at Fond du Lac High School.

Sincerely,

Michelle Hagen, Principal Fond du Lac High School

PRIDE • ACHIEVEMENT • GROWTH

You Gotta Love It Here at Fondy High!

PARENT/GUARDIAN CONSENT FORM FOR PARTICIPATION OF HUMAN PARTICIPANTS IN RESEARCH UNIVERSITY OF WISCONSIN-PLATTEVILLE & FOND DU LAC SCHOOL DISTRICT

- **1. Purpose:** The purpose of this research is to examine the relationship between extracurricular activities and student academic achievement and risk behaviors at Fond du Lac High School.
- 2. Procedure: Your child will be asked to complete a brief survey. PARTICIPATION IS VOLUNTARY AND HE/SHE WILL BE ASKED TO GIVE HIS/HER ASSENT. YOUR CHILD'S NAME WILL NOT BE RECORDED ON THE RESEARCH MATERIALS AND IT WILL NOT BE INCLUDED IN OUR DATA SET OR IN ANY REPORTS ABOUT THE PROJECT. I will be collecting data on student participation in extracurricular activities, student grades, school engagement questionnaires results, discipline referrals, free and reduced lunch data, and attendance reports. Data will be collected from September and through May of the respective school year at the end of each academic quarter.
- **3. Time Required:** Participation is expected to take approximately 20 minutes.
- **4. Risks:** No short-term or long-term risks are foreseen. The only "cost" to the participants will be the time and effort required to participate in the study. The students name will be confidential by assigning each student a code number on the collection sheets. The code key will be kept in a locked draw in my desk.

Benefits: Your child's participation in this study will help to inform the Fond du Lac High School staff of the benefits of extracurricular participation.

5. Your Rights as the Parent of a Student Participant: The information gathered in this study will be confidential. Data or summarized results will not be released in any way that could identify you or your child. If your child would like to withdraw from the study at any time, he/she may do so without penalty or repercussions. The information collected regarding your child up to that point would be deleted from my data set. At the end of the study participants will be given a debriefing detailing the exact purpose of the research. If you have any questions afterward, please ask:

 $David\ Michalkiewicz,\ Athletic\ Director\ /\ K-12\ Physical\ Education\ Coordinator,\ Fond\ du\ Lac\ High\ School\ University\ of\ Wisconsin-Platteville$

michalkiewiczd@fonddulac.k12.wi.us

Faculty Sponsor: Dr. Joan Riedle (riedlej@uwplatt.edu)

Once the study is completed, you may request a summary of the results by contacting me the above researcher or Michelle Hagen, Principal.

6. If you have any questions about your child's treatment as a participant in this study, please call or write:

Barb Barnet		Michelle Hagen	
Chair of the UW-Platteville IRB	or	Principal, Fond du Lac High School	
(608) 342-1942		920-906-6753	
barnetb@uwplatt.edu		hagenma@fonddulac.k12.wi.us	
I have read the above information and (check	one):		
DO NOT give consent for m	y child to parti	cipate in the research.	
Please note: If no permission is returned, your	child will part	ticipate in the survey and research.	
Please print your child's name (First, Middle,	Last):		
Please print your full name (First, Middle, La	st):		
Please sign:		Date:	
Then return this completed form to		by <u>October 19, 2015</u>	

STUDENT ASSENT FORM FOR PARTICIPATION IN RESEARCH UNIVERSITY OF WISCONSIN-PLATTEVILLE & FOND DU LAC HIGH SCHOOL

Dear Student,

We want to provide the best education possible to you and to future students. Therefore, we are conducting this research project. You are invited to participate in our extracurricular participation study. The purpose of our research is to explore the relationship between extracurricular activities and student academic achievement and risk behaviors at Fond du Lac High School. We would like to collect information about you from our existing school records, and have you complete a school engagement survey.

Participation in this study will have absolutely no impact on your grades. The information gathered will be used to help make Fond du Lac High School a better place for you and your classmates.

Your parents have already given permission for us to include your information in our study. Your voluntary completion of the survey constitutes your agreement (assent) to participate. Thank you for helping us to better help you.

Sincerely,

Mr. David Michalkiewicz, Graduate Student in Education University of Wisconsin-Platteville Athletic Director / K-12 Physical Education Coordinator, Fond du Lac High School 608-778-9163

michalkiewiczd@fonddulac.k12.wi.us

Faculty Sponsor: Dr. Joan Riedle (riedlej@uwplatt.edu)

Ms. Michelle Hagen Principal, Fond du Lac High School 920-906-6753 hagenma@fonddulac.k12.wi.us

If you have any questions about your treatment as a participant in this study, please call or write either of us or contact:

Barb Barnet Chair of the UW-Platteville IRB (608) 342-1942 barnetb@uwplatt.edu

School Engagement Questionnaire

Modified from the "School Attachment Survey" used by Howard and Ziomek-Daigle (2009)

Please answer wi	th a 0 or 1:
No = 0; Yes = 1	
Commitment	
1	Do you care if your homework is done correctly?
2.	Do you think that most of your classes are important?
3.	Does it matter to you what your grades are?
4.	Do you think education is important?
5.	Do you think your success is based on your effort?
Attachment	
6	Do you care a lot about what your teachers think of you?
7	Do you have a favorite teacher?
8	Do most of your teachers like you?
9	Do you like most of your teachers?
10	It is easy for me to talk over schoolwork problems with my teachers.
Involvement	
11	Will you belong to the school band/chorus?
12	Will you participate in the school student council?
13	Will you participate in athletics?
14	Will you attend school athletic events or school concerts after school?
15	Will you belong to other school clubs?
Belief in School	Rules
16	Are most school rules fair?
17	Are students treated fairly?
18	Are all student ethnic groups treated the same?
19	Are punishments the same no matter what?
20	Are the rules strict enough?

Fond du Lac High School – Extracurricular Participation Research Data Key

Student Name	Student ID Number
	1
	2
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	10

						GP	GP	GP	GP				
Stud	Atten	SportsPart	NonsportPa	Totalparti	Socioec	AQ	AQ	AQ	AQ	GPAAv	Refe	Engage	Engage
entID	dance	icipation	rticipation	cipation	onomic	3.1	3.2	3.2	3.3	е	rrals	ment1	ment2
1	9	1	1	2	2	68	5.2	5.2	3.3 14	3.246	0	15	17
	_	_				1.8	2.1	2.2	2.0	2.0422	_	_	
2	9	0	1	1	1	33 2.7	13 2.5	2.5	02 2.7	5 2.6252	0	5	8
3	9	0	0	0	2	14	24	24	39	5	0	11	10
4	9	0	1	1	1	1.2 86	1.4	1.4	1.1 55	1.3252 5	3	3	5
4	9	U	1	1	1	1.9	1.8	1.8	1.8	1.8597	3	3	5
5	8	0	0	0	1	04	57	57	21	5	0	8	11
6	9	0	1	1	2	1.7 77	1.8 33	1.8 33	1.8 33	1.819	2		
			-			3.3	3.3	3.3	3.3	3.388			
7	9	0	1	1	2	2.6	88	88 2.2	88		0		
8	9	0	1	1	1	19	2.2 39	39	2.0 24	2.2802 5	0	14	12
						3.7	3.6	3.6	3.6	3.6492			
9	10	0	0	0	1	16 2.9	19 2.8	19 2.8	43 2.7	5 2.8467	0	13	15
10	9	3	1	4	2	53	59	59	16	5	0	11	16
44		0	0	0	4	1.7	1.5	1.5	1.5	1.5915			
11	9	0	0	0	1	23	57 2.4	57 2.4	29 2.5	2.5122	1	6	6
12	9	2	1	3	1	71	77	77	24	5	0	12	
13	8	0	0	0	2	3.5 24	3.3 81	3.3 81	2.5 96	3.2205	4	11	13
	0	0	0	0		3.9	3.9	3.9	3.8	3.9232	-	11	13
14	9	2	0	2	2	53	53	53	34	5	0	16	15
15	9	0	0	0	1	3.6 67	3.8	3.8	3.7 39	3.7565	0	16	13
						3.3	2.8	2.8	2.6	2.9455			
16	9	1	0	1	1	35 3.3	9 3.4	9 3.4	67 3.3	2.3 133	0	12	16
17	9	4	0	4	1	33	77	77	11	3.3995	0	15	17
10			2			1.3	1.1	1.1	1.3	1.2302		_	1
18	8	0	0	0	2	35 2.6	12 2.2	12 2.2	62	5	4	5	5
19	9	0	0	0	2	12	78	78	2	2.292	1		
20	9	1	0	1	1	2.8 57	2.8 57	2.8 57	2.5 95	2.7915	0	4	7
20	9	1	U	1	1	3.8	3.6	3.6	3.7	3.7382	U	4	,
21	9	0	0	0	1	57	67	67	62	5	0	17	15
22	6	0	0	0	1	1.2 23	0.6 2	0.6	0.6 19	0.7705	9	11	12
		<u> </u>	0	<u> </u>	1	3.0	3.3	3.1	3.1	3.1615		11	12
24	9	1	1	2	2	01	81	44	2		0	14	17
25	9	0	0	0	2	3.3 34	3.4 77	3.4 77	3.1 19	3.3517 5	0	16	16
						3.3	3.4	3.4	3.5	3.4535			
26	9	4	0	4	1	81 2.1	32 3.5	77 2.5	24	2.6632	0	12	14
27	9	0	0	0	2	68	24	43	18	2.0032	1	10	7
20						3.6	3.2	3.5	3.5	3.4962			- 10
28	9	1	0	1	2	67 3.2	22	3.2	72 3.1	5	0	17	13
29	9	0	0	0	2	22	29	22	53	3.0065	0	14	15
30	9	0	0	0	1	2.4	3.3 8	2.4 29	2.5	2.6847 5	0	10	13
30	3	U	U	U	1	3.3	3.9	3.3	3.5	3.5772	U	10	13
31	9	2	1	3	1	81	53	8	95	5	0	14	16

				ı	I	3.8	3.6	3.9	3.5	3.7562			
32	9	2	0	2	1	11	66	53	95	5.7302	0	18	18
- 52				_	-	3.3	3.6	3.6	3.9	3.6707		10	10
33	9	0	0	0	2	75	66	66	76	5	0	6	4
						1.5	1.4	1.4	1.6	1.5305			
34	9	0	1	1	2	24	76	76	46		0	3	6
35	9	0	0	0	1	3.1 41	3.0 47	3.0 47	3.3 57	3.148	2	15	12
33	3	0	0	0	1	3.2	2.9	2.9	2.6	2.9347		13	12
36	10	1	0	1	2	37	06	06	9	5	1	14	16
							4		2.9	3.7442			
37	10	4	0	4	2	4		4	77	5	0	19	18
38	9	1	0	1	2	3.7 13	3.8 57	3.8 57	4	3.8567 5	0	9	7
36	3		0	1		2.7	2.1	2.1	3.9		0	<u> </u>	,
39	9	1	1	2	2	91	26	26	05	2.737	2	13	15
						3.9	4		2.3	3.5625			
40	8	0	0	0	2	16		4	34	3.3023	0	17	14
41	9	1	1	2	2	2.6 66	3	3	4	3.1665	0	17	17
41	3					3.2	3.4	3.4	3.2	3.3517	- 0	17	17
42	9	2	0	2	2	39	77	77	14	5	0	16	16
						2.9	3.1	3.1	3.2	3.117			
43	9	0	1	1	2	53	9	09	16		0	12	14
4.4	0	0	0	0	1	2.0	2.0	2.0	2,0	513.30	0	1.4	11
44	9	0	0	0	1	47 2.0	96 2.0	96 2.0	47 1.9	975 2.0547	0	14	11
46	9	0	0	0	2	97	49	97	76	5	0	7	
						3.3	3.3	3.3	3.3	3.3575			
47	9	0	0	0	2	81	34	81	34	3.3373	0	9	10
40	0	4			2	3.5	3.4	3.4	3.3	3.4295	0	4.4	4.5
48	9	1	0	1	2	3.9	3	3	34		0	11	15
49	9	0	0	0	1	53	4	4	77	3.8575	0	16	16
						2.9	3.2	3.2	3.9	2 252			
50	9	0	1	1	1	54	39	39	76	3.352	0	11	10
54	0	0				3.5	3.4	3.4	3.2	3.418	0		
51	9	0	0	0	1	15 2.8	59 2.6	59 2.6	39 3.4		0		
52	6	0	0	0	2	57	7	2.0	29	2.894	0	8	12
						3.5	2.6	3.5	2.3	3.006			
53	9	0	1	1	1	23	2	23	58		0	16	18
F.4	0	0	0		1	1.9 45	2.6	2.0 02	3.3 58	2.4812	2	-	2
54	9	0	0	0	1	3.2	2.0	3.0	2.1	2.6092	3	5	3
55	8	0	0	0	1	25	02	55	55	5	1	9	4
						3.0	3.0	2.7	2.4	2.842			
56	9	2	0	2	2	84	55	93	36	2.042	0	16	18
E 7	7	3	1	4	2	2.9 98	2.7 93	3.1 67	2.8 54	2.953	0	10	1.4
57		3	1	4		3.6	3.1	3.7	3.1		U	10	14
58	9	0	0	0	2	25	67	91	29	3.428	0	10	11
						2.7	3.7	3.1	3.5	3.33			
59	9	0	0	0	2	78	91	67	84		0		14
60	9	0	0	0	1	3.1 35	3.0	3.1 65	3.1 69	3.1317 5	9	4	2
00	9	U	0	U	1	2.6	58 1.5	2.3	1.3		9	4	3
61	9	0	0	0	2	25	73	34	62	1.9735	0	15	16
		-				2.0	2.3	2.8	2.3	2.4042			
62	9	4	0	4	1	94	34	35	54	5	2	18	17
63	c c	•	0	0	,	2.1 67	2.8	1.2	2.9	2.2942 5	2	6	4
63	8	0	0	U	2	1.6	35 1.2	22 1.4	53 0.8		2	b	4
64	9	1	0	1	1	69	22	32	61	1.296	0	15	14

	1		I	I	l	2.7	2.2	2.2	2.2	2 2072	l		
65	9	0	0	0	2	3.7 14	3.2 86	3.2 86	3.2 63	3.3872 5	0	5	6
0.5	9	0	0	0	2	2.8	2.8	2.6	2.4	2.6687	U	3	0
66	9	0	0	0	2	1	11	25	29	5	2	11	9
						3.9	1.8	1.8	1.8				
67	9	0	0	0	2	59	59	88	98	2.401	0	3	4
						3.6	4		4	3.9047			
68	9	0	0	0	2	19	4	4	4	5	0	8	6
	_	_	_	_	_	3.4	3.7	3.4	3.5	3.5365	_		
69	9	0	0	0	2	76	14	32	24		0		
70	9	0	0	0	2	3.7 91	3.7 09	3.7 91	3.8 16	3.7767 5	0		
70	9	U	U	U		2.9	2.8	2.8	3.6	3	U		
71	9	0	0	0	2	54	57	57	26	3.0735	0	14	13
					_	3.7	3.7	3.7	2.4	3.4412			
72	10	0	1	1	2	93	5	93	29	5	0	13	15
						3.8	3.8	3.8	3.8	3.8365			
73	9	0	1	1	2	59	1	1	67	3.0303	0	11	10
						3.1	3.0	3.0	3.9	3.2955			
74	9	2	1	3	2	67	55	55	05		0	6	14
75	0	0	0		,	1.9	1.6	1.6	2.6	1.9695	0	12	0
75	9	0	0	0	2	04 3.6	67 2.9	67 2.9	1.4	2.7332	0	12	9
76	9	0	0	0	2	25	16	16	76	5	0	11	10
70	3	0	0			23		10	3.1		0	- 11	10
77	9	1	0	1	2	4	4	4	66	3.7915	0	16	17
						3.1	3.1	3.1		2 2015			
78	9	0	0	0	2	91	44	91	4	3.3815	0	16	
						2.4	2.2	2.2	3.3	2.5667			
79	9	0	0	0	2	76	4	4	11	5	1	12	16
						3.6	3.7	3.6	2.2	3.3105			
80	9	2	1	3	2	2	16	2	86		0	15	17
01	_	0	0			1.8	1.3	1.3	3.5	2.0255	0	5	7
81	7	0	0	0	1	88 2.6	33 2.1	33 2.1	48 1.0	2.0067	0	5	7
82	9	0	1	1	1	13	68	68	78	5	0	10	8
- 02					-	2.3	1.8	1.8	2.0		Ŭ	10	
83	8	0	0	0	1	88	56	56	84	2.046	0	4	6
						3.3	3.7	3.7	3.6	2.607			
84	9	0	0	0	2	33	14	14	67	3.607	0	17	17
						3.0	2.6	2.6	2.7	2.7922			
85	9	0	1	1	2	49	67	67	86	5		11	11
0.5						2.5	2.2	2.2	2.7	2.435			
86	9	4	0	4	2	24	39	39	38	2.0502	0	4	4
87	9	0	0	0	1	2.2 86	1.9 04	1.9 04	2.1 43	2.0592	3	14	11
37	3	U	<u> </u>	0	1	50		04	1.5		J	14	11
88	9	1	0	1	1	1.5	2.5	2.5	24	2.006	3	16	14
						2.4	2.6	2.6	2.3	3.500			
89	8	4	0	4	2	77	2	2	07	2.506	0	12	16
						2.2	1.9	1.9	2.4	2.1552			
90	8	0	0	0	2	87	53	53	28	5	2	10	9
						2.6	1.9	1.9	2.0	2.13			
91	9	0	0	0	2	1	43	43	24		0	17	14
03	_	4	_	4	٠,	3.7	3.9	3.9	1.8	3.3547	_	4.4	47
92	9	1	0	1	2	14 2.6	04 2.5	2.6	97 3.9	2.9342	0	14	17
93	9	0	1	1	2	19	2.5 7	19	29	2.9342	0	10	10
75	,	U	1	1		3.3	3.3	3.3	2.5			10	10
94	8	1	1	2	2	34	34	34	38	3.135	0	14	13
						2.8	3.0	3.0	3.1	3.0247			
95	9	4	0	4	2	1	49	49	91	5	0	18	17
						3.2	3.1	3.6	2.7	3.1797			
96	9	0	0	0	2	22	12	7	15	5	0	6	4

97	9	0	1	1	1	2.6 66	2.4	3.1 12	3.6 7	2.9695	0	3	6
						2.5	2.2	2.2	2.5	2.4127			
98	9	0	1	1	1	23	86 2.9	86 2.9	56 2.4	5 2.7677	0	15	17
99	9	2	0	2	2	23	47	47	54	5	0	14	16
100	9	0	0	0	2	1.5 55	1.1 12	1.1 12	1	1.3082 5	0	5	4
						2.8	2.9	2.9	3.0	2.9192			
101	9	0	0	0	2	3.8	3.8	3.8	58 3.8	5	1	9	11
102	9	4	0	4	2	57	59	57	67	3.86	1	13	15
103	9	0	1	1	1	2.3 88	2.5 53	2.5 53	3.0 24	2.6295	0	12	14
104	9	0	0	0	2	3.4 19	3.3	3.3	3.6 91	3.4445	0	17	16
104	9	0	U	U	2	2.7	2.8	2.8	2.1	2.6202	0	1/	16
105	9	0	0	0	1	23 3.3	3.2	3.2	38	5	3	10	9
106	9	0	1	1	2	34	91	91	5.5 54	3.3175	0	11	12
107	9	4	0	4	2	3.0 96	3.5 71	3.5 71	3.3 34	3.393	0	14	13
						3.2	3.5	3.5	3.2	3.4382		17	
108	9	3	1	4	2	9 3.4	85 2.9	85 2.9	93 3.5	5	2		15
109	9	0	0	0	2	29	53	53	95	3.2325	0	7	12
110	9	2	0	2	1	2.4 29	2.4 76	2.4 76	3.5 84	2.7412 5	3	9	11
						0.5	0.8	0.8	0.7	0.7772			
111	7	0	0	0	1	55 3.3	3.5	88 3.5	78 3.7	5	6	5	3
112	9	0	0	0	2	34	23	23	38	3.5295	0	16	16
113	8	0	0	0	1	2.1 91	1.6 1	1.8 61	1.6 38	1.825	0	11	5
114	0	0	0	0	2	3.5	3.8	3.8	3.7	3.7557	0	10	1.4
114	9	0	0	0	2	71 3.8	57 3.7	57 3.7	38	2.710	0	10	14
115	9	2	1	3	2	1	14	14 2.5	38	3.719	0	8	11
116	8	2	0	2	2	2.8	2.5 34	2.5	2.7 38	2.649	0	13	14
117	9	1	1	2	2	2	2.3 81	2.3 81	2.6 25	2.3467 5	0	6	9
						1.0	0.6	0.6	1.2	0.892			
118	8	0	0	0	1	55 3.0	3.1	3.1	73 2.5		4	4	4
119	9	0	1	1	1	01	25	25	49	2.95	0	12	10
120	9	0	1	1	2	3.5 71	3.5 26	3.5 26	3.2 43	3.4665	5	10	11
						1.5	0.8	0.8	1.0	1.0675			
121	9	0	0	0	1	71 3.2	3.1	3.1	79 3.5	3.2627	3	8	7
122	9	1	0	1	2	78	12	12	49	5	0	13	15
123	9	0	0	0	1	1.6 67	1.8 33	1.8 33	1	1.5832 5	1	4	4
124	9	0	0	0	1	1.1 91	0.6 19	0.6 19	0.8	0.8097 5	1	6	3
		U	0		1	2.7	3.1	3.1	3.1	3.0382	1	U	3
125	9	0	0	0	1	77 1.5	12 1.8	1.8	52 1.7	5	2	12	14
126	9	3	0	3	1	23	56	56	37	1.743	0	6	7
127	10	1	1	2	2	3.1 26	2.7 5	2.7 5	2.8 34	2.865	0	11	12
						1.5	1.0	1.0	0.6	1.0537			
128	7	0	0	0	1	71	01	01	42	5	3	5	3

	1			I	ı	2.0	0.7	2 -	2.0	0.7640			
129	9	4	0	4	2	3.8	3.7 13	3.7 13	3.8 09	3.7612 5	0	11	15
123	3	7	0	4		3.3	2.8	2.8	2.6		0		13
130	9	0	0	0	1	33	34	34	13	2.9035	1	6	5
101						3.3	3.4	3.4	3.4	3.417	_		4.4
131	9	2	0	2	2	81 1.1	0.2	0.2	29 0.2	0.5002	2	8	11
132	6	0	0	0	1	67	78	78	78	5	18		
							2.4	2.4	2.7	2.5307			
133	9	0	0	0	2	2.5	3	3	63	5	0		
134	9	0	0	0	1	1.8 33	1.6 12	1.6 12	1.8 72	1.7322 5	0	9	12
131			-	, ,		3.9	3.7	3.7	3.7				12
135	9	0	0	0	1	06	61	61	38	3.7915	0	13	14
126	8	0	1	1	1	2.3 33	2.1 68	2.1 68	1.9 79	2.162	0	10	۰
136	0	0	1	1	1	1.8	2.2	2.2	2.4		U	10	8
137	8	0	1	1	2	33	78	78	45	2.2085	0	6	7
	_						3.2	3.2	3.7	3.3946			
138	7	0	0	0	1	1.7	23 1.4	23 1.4	38 1.9	66667	0	10	14
139	9	0	1	1	2	63	76	76	79	1.6735	0	10	12
						3.1	3.3	3.3	3.4	3.3067			
140	10	0	0	0	2	12	35	35	45	5	1	14	15
141	9	0	0	0	2	1.2 78	1.0 57	1.0 57	0.8 98	1.0725	10	6	3
			-	, ,		0.7	0.4	0.4	1.3	0.7445	10		
142	8	0	0	0	1	78	45	45	1	0.7445	8	5	3
142	0	0	0	0	1	0.6	0.4	0.4	0.4	0.4825	10	7	_
143	9	0	U	0	1	1.2	43 0.4	43 0.4	34 1.1		10	/	5
144	8	0	0	0	1	22	34	34	12	0.8005	8	5	4
			_			1.4	1.0	1.0	0	0.8897	_		
145	9	0	1	1	1	45	57	57		5	7	9	4
146	9	0	0	0	2	4	4	4	4	4	0	9	11
147	9	0	0	0	2	2.0 02	1.7 22	1.7 22	1.6 25	1.7677 5	0	11	8
						3.9				3.9882			
148	10	1	0	1	2	53	4	4	4	5	0	11	15
149	9	0	1	1	2	2.1 43	1.8 57	1.8 57	2.1 52	2.0022	0	6	8
149	9	0	1	1	2	2.8	3.1	3.1	3.4		0	0	
150	9	0	0	0	1	57	43	43	23	3.1415	0	12	14
454		_				3.1	2.7	2.7	2.7	2.8515			10
151	9	1	0	1	1	91 2.5	2.3	2.3	2.3		0	14	13
152	10	0	0	0	1	2.3	34	44	45	2.3865	0	12	12
						3.6	3.7	3.7	3.8	3.7547			
153	10	3	1	4	2	26 2.8	91 2.7	91 2.7	2.9	5 2.8317	0	10	14
154	9	0	0	0	2	2.8 57	61	61	2.9 48	2.8317 5	0	17	15
	_					2.7	3.2	3.2	2.8	3.0362			
155	9	0	0	0	2	14	86	86	59	5	0	10	11
156	9	0	0	0	2	3.1 63	2.8 57	2.8 57	3.1 67	3.011	0	8	10
130	,	0	0	0		3.8	3.9	3.9	3.8	2.0625	- 0	<u> </u>	10
157	9	0	0	0	1	33	04	04	13	3.8635	0	11	14
450		_	_	_			1.0	1.4	1.6	3.8736	_	_	40
158	9	0	0	0	1	2.2	57 1.4	76 1.3	1.3	66667 1.6197	1	6	10
159	9	0	1	1	2	23	76	9	9	5	3	6	3
						3.2	1.3	3.6	3.6	2.978			
160	9	0	1	1	2	84	9	19	19	2.570	0	3	3

				ı	1	1	2.6			2.0047			
161	7	4	0	4	2	4	3.6 19	4	4	3.9047 5	3	15	17
101	,	7	0	4		1.6	1.3	1.4	0.7		3	13	17
162	7	0	0	0	1	67	9	43	22	1.3055	18	8	4
160						0.3	1.4	0.0	0.4	0.5895		_	_
163	9	0	0	0	1	3.3	43 3.2	96 3.3	29 3.0		3	5	5
164	9	1	0	1	2	81	5.2	81	96	3.277	0	9	14
						3.9	3.1		4	3.774			
165	9	1	0	1	2	53	43	4			0	13	16
166	9	0	0	0	1	2.9 53	3.1 43	3.0 49	3.0 52	3.0492 5	0	13	17
100	3		<u> </u>			3.2	3.0	3.5	3.5		-	13	
167	9	2	1	3	2	93	49	1	84	3.359	0	17	18
160	9	2	0	,	2	3.0 03	3.5	2.8 35	2.7 09	3.012	0	1.4	16
168	9	2	0	2		3.4	2.8	3.5	3.5		U	14	16
169	10	0	0	0	1	77	35	71	95	3.3695	0	11	12
			_				3.5	2.9	2.7	3.0662			
170	9	0	0	0	2	3.2	71 2.9	54 3.2	3.1	5 3.1737	0	13	10
171	9	0	0	0	1	87	54	87	67	5.1737	0		
						3.9	3.7	3.9	3.9	3.892			
172	10	0	1	1	2	53	09	53	53		0	7	12
173	9	2	1	3	2	2.3 33	3.9 53	2.7 61	2.7 14	2.9402 5	0	9	9
1,3					_	3.9	3.9	3.9	3.8			<u> </u>	
174	9	0	0	0	2	53	06	53	58	3.9175	0	11	13
175	0	1	4	2	2	3.3	2.7	3.3	3.2	3.177	0	10	1.0
175	9	1	1	2	2	31	3.3	31	85 3.3	3.2983	0	10	16
176	5	0	0	0	1		33	3.2	62	33333	2	11	11
						1.2	1.6	0.6	0.9	1.114			
177	9	0	0	0	1	3.1	67 3.3	67 2.7	2.6		2		
178	9	1	0	1	2	44	3.3	16	91	2.9705	0	8	9
						3.9	3.8	3.9	3.8	3.894			
179	9	1	0	1	2	53	13	53	57	3.034	1	16	18
180	9	1	0	1	2	3.0 01	3.8 57	3.4 76	3.3 8	3.4285	0	5	11
100		-			_	3.8	3.4	3.8	3.8	3.7442		3	
181	9	1	0	1	2	34	76	34	33	5	0	9	15
182	9	0	0	0	1	3.3 34	3.7 5	3.4 76	3.5 71	3.5327 5	0	11	13
102	9	0	0	0	1	2.4	2.9	2.9	2.2	2.6247	U	11	13
183	9	0	0	0	2	29	04	04	62	5	0	10	8
	10	_	_	_	_		1.6		0	0.5556			
184	10	0	0	0	2	3.0	67 3.3	3.0	3.5	66667	0	10	4
185	9	0	1	1	1	03	34	03	22	3.2155	1	9	12
						1.3	1.9	1.6	1.9	1.7362			
186	7	0	0	0	2	88	45	67	45	5	3	4	6
187	5	0	0	0	2		0	0	0	0	0	3	3
400		_	_	_	_	2.0	1.6	2.0	1.1	1.726	_	40	40
188	7	0	0	0	2	57 3.7	3.4	57 3.7	3.4	3.5832	0	10	10
189	9	2	0	2	1	16	74	16	27	5.3632	0	6	11
						3.9	3.9	3.9	3.9	3.953			
190	9	0	0	0	2	53 3.2	53	53	53	2.555	0	15	17
191	9	1	0	1	1	3.2 39	3.0 96	3.0 96	3.0 95	3.1315	0	5	9
				_		1.7	2.1	2.1	1.7	1.9737		-	-
192	9	0	1	1	1	8	68	68	79	5	0	11	11

					1	1.0	2.0	2.0	2.4	2.0477			
193	9	2	1	3	2	1.9 53	2.0 47	2.0 47	2.1 44	2.0477 5	0	3	6
							4		4	4			
194	9	2	0	2	2	2.7	2.6	2.6	2.6	2.6952	0	8	15
195	9	0	0	0	2	77	68	68	68	5	1		
100	0	1	0	4	2	2.6	2.7	2.7	3	2.806	0	0	1.4
196	9	1	0	1	2	68 3.2	78 3.0	78 3.0	3.1	3.1672	0	9	14
197	9	3	0	3	2	86	96	96	91	5	0	14	15
198	9	0	0	0	2	3.5 23	3.8	3.8 1	3.5 14	3.6642	0	13	13
190	9	0	0	0	2	23	3.7	1	3.6	5 3.7432	0	13	13
199	9	0	1	1	2	3.8	34	3.8	39	5	2	11	11
200	9	0	0	0	2	2.5	0.3 33	0.3 33	0.3 33	0.8747 5	6	6	4
200	3	0	0	0		3.4	3.2	3.4	3.1	3.3287	0	0	4
201	9	4	0	4	2	77	4	77	21	5	0	11	12
202	9	0	1	1	2	2.8 59	2.9 53	2.9 53	2.7 38	2.8757 5	0	11	11
202	<u> </u>	<u> </u>	-	-		2.8	2.7	2.7			- 0		- 11
203	8	0	1	1	1	1	14	14	2.5	2.6845	0	14	14
204	8	0	1	1	2	1.9 45	1.8 11	1.8 81	2.1	1.9392 5	0	7	7
					_	3.8	3.9	3.8	3.9	3.9107		•	,
205	9	2	0	2	2	57	53	57	76	5	0	12	16
206	9	0	1	1	2	2.5 71	2.5 24	2.5 42	2.6 19	2.564	0	9	11
		<u>-</u>				2.9	2.9	2.9	2.9	2.9285			
207	9	2	0	2	2	04	53	04	53		0	8	13
208	9	0	0	0	2	2.7 63	2.4 77	2.4 77	2.4 52	2.5422 5	0	10	9
209	9	1	0	1	2	4	4	4	4	4	0	8	12
203			0	-		2.7	2.7	2.7	2.6	2.708	0	0	12
210	9	0	0	0	1	61	14	14	43		0	12	12
211	9	4	0	4	1	3.2 39	3.2 86	3.2 39	3.2 39	3.2507 5	4	11	14
					_	2.2	1.4	1.4	1.2	1.585			
212	8	0	0	0	1	23	47	47	23		19	7	4
213	8	0	0	0	1	0.5 34	0.4 66	0.4 66	0.2 33	0.4247 5	29	4	4
						2.0	1.7	2.0	1.7	1.882			
214	8	0	0	0	1	01 1.5	63 0.1	0.1	63 0.0		0	13	4
215	6	0	0	0	1	55	67	67	83	0.493	0	5	4
						1.8	1.8	1.8	2.0	1.9042			
216	9	0	0	0	1	9	35 3.9	35 3.9	57 3.9	5	1	8	9
217	10	2	0	2	2	4	59	59	78	3.974	0	17	18
220		•				3.1	2.9	2.9	2.9	2.9992			
220	9	0	1	1	2	67 3.7	53 3.8	53 3.8	3.8	5 3.8302	0	11	14
221	9	0	0	0	2	63	52	52	54	5.0302	0	16	18
222		4	2	2	_	3.1	3.2	3.1	3.2	3.205		4.4	4.5
223	9	1	2	3	2	9 2.9	39	2.9	3.2		0	14	15
224	9	1	0	1	2	53	91	53	15	3.078	0	15	15
225	7	0	0	0	1	<u> </u>	0	0	0	0	3	2	4
226						3.1	2.9	2.6	3.1	2.9477	_		
226	9	1	0	1	1	2.7	47 2.6	2.5	13 2.3	5 2.5582	2	15	19
227	9	1	1	2	2	17	21	84	11	5	4	9	11
220						2.7	2.5	2.4	2.5	2.591	_	43	13
228	9	0	0	0	2	93	84	45	42		0	13	13

229	9	0	0	0	1	2.2 78	2.4 45	2.2 78	2.8 61	2.4655	8	12	12
						0.1	0.6	0.6	0.7	0.5702			
230	9	0	0	0	1	67	68	68 1.1	78	5	8	3	
231	9	0	0	0	2	1.3 33	1.1 12	1.1	1.2 23	1.195	6	5	4
			_		_	2.8	2.9	2.9	2.6	2.8442		_	
232	8	0	0	0	2	57 0.2	51	51	18 0.1	5 0.0852	1	7	8
233	6	0	1	1	1	39	0	0	02	5	1	3	2
234	10	0	0	0	2	3.9 53	3.9 53	3.9 53	3.9 76	3.9587 5	0		15
234	10	0	0	0	2	3.0	3.2	3.2	3.2	3.2267	0		15
235	9	0	2	2	2	96	86	86	39	5	1	7	9
236	9	2	1	3	2	3.7 91	3.9 18	3.9 18	3.9 18	3.8862 5	0	13	15
227						2.3	2.0	2.0	1.5	2.0012		4.4	_
237	9	0	0	0	1	9 2.8	57 2.3	57 2.3	01 1.8	5	1	11	5
238	8	0	0	0	1	9	9	9	62	2.383	0	6	8
239	9	0	2	2	2	3.7 09	3.7 09	3.7 09	3.7 72	3.7247 5	0	13	15
233			_		_	3.6	3.6	3.6	3.5	3.6077	Ū	13	13
240	9	0	1	1	2	67	2	2	24	5	0		
241	7	0	0	0	1	1.2 39	1.1 43	1.2 39	1.3 06	1.2317 5	0	8	8
						2.2	1.9	1.9	1.7	1.9735			
242	9	0	0	0	2	77 3.7	47 3.9	47 3.9	23 3.8	3.8642	0	7	6
243	9	0	2	2	2	5.7	16	16	75	5.8042	0	5	12
244	0	0	0	0	1	2.3	1.4	1.4	1.7	1.7572	0	0	7
244	9	0	0	0	1	3.6	45 3.5	45 3.4	51 3.4	5 3.5367	0	9	7
245	9	3	0	3	2	66	71	57	53	5	0	16	17
246	9	2	0	2	1	3.4 77	3.3 81	3.4 77	3.3 58	3.4232 5	0	10	13
2.0	3			_			3.1	3.1	3.1	3.1072	Ū		10
247	9	0	1	1	2	3 2.8	43	43 2.4	43	5	0	10	11
248	9	1	0	1	2	59	2.4 79	79	2.7 4	2.6392 5	2	13	12
240		2			_	3.0	3.1	3.1	3.1	3.1007		_	
249	9	0	0	0	1	55 1.5	1.6	1.6	28 1.9	5	0	4	8
250	9	0	0	0	1	55	12	12	71	1.6875	0	8	9
251	8	0	0	0	1	0.2 39	0.8 57	0.8 57	0.6 41	0.6485	2	12	5
						3.0	2.5	2.5	3.0	2.763			
252	9	0	1	1	1	03 3.7	03	03	43 3.8	3.8857	0	6	5
253	9	0	0	0	2	22	4	4	21	5.8857	0	11	15
254	9	1	0	1	2	2.4 45	2.7 22	2.7 11	2.4 44	2.5805	0	7	9
254	9	1	0	1	2	3.9	3.9	3.9	3.9	3.9587	U	,	9
255	9	0	0	0	2	53	53	53	76	5	0	7	10
256	9	1	0	1	2	3.9 06	3.9 06	3.9 06	3.7 86	3.876	0	9	11
						3.1	3.0	3.0	3.1	3.0877			
257	9	0	0	0	1	13 1.8	55 1.5	55 1.5	28 1.3	5 1.5777	0	8	12
258	9	0	0	0	1	57	73	73	08	5	0		
259	9	1	0	1	2	3.2 86	3.2 4	3.2 4	3.2 15	3.2452 5	0		
233	3	1	0	1	2	3.5	3.3	3.5	3.2		U		
260	9	0	0	0	2	24	36	24	16	3.4	1		14

261	9	1	0	1	2	3.8 57	3.6 2	3.8 57	3.6 44	3.7445	0	13	14
						3.2	3.1	3.1	3.1	3.1992			
262	9	0	0	0	1	37 2.3	9 2.5	9 2.5	2.0	5	0	10	11
263	8	4	0	4	1	34	23	13	72	2.3605	1	8	9
264	9	0	1	1	1	2.0 49	2.0 49	2.0 49	2	2.0367 5	0	7	7
						2.3	2.3	2.3	1.7	2.1882			
265	9	0	0	0	1	35 3.1	33 3.5	35 3.5	5 3.4	5 3.4052	0	10	8
266	9	1	0	1	2	44	24	24	29	5	0	16	17
267	5	0	0	0	1	2.2 39	2.0 96	2.0 96	1.8 58	2.0722 5	1	7	8
268	0	0	1	1	1	3.7 78	3.5	3.7	3.5	3.6742	0	12	12
200	9	0	1	1	1	76	57 2.6	78 2.6	2.4	2.6607	0	12	13
269	9	1	0	1	1	3 2.9	19	19 2.7	05	5	0	15	13
270	9	0	1	1	2	2.9 54	2.7 14	2.7 14	2.3 34	2.679	0	5	5
271	9	0	0	0	1	1.9 43	2.3 33	2.3 33	2.4 88	2.2742 5	0	6	8
2/1	<i>y</i>	0		0	1	3.3	3.0	3.0	3.0	3.1307	0		
272	8	0	0	0	1	33 3.1	47 3.4	47 3.4	96 3.1	5	1	9	13
273	8	0	2	2	2	43	29	19	43	3.2835	1	9	10
274	9	0	0	0	1	0.7 23	1.0 01	1.0 01	1.2 63	0.997	0	7	5
						3.8	3.9	3.9	3.7	3.8627			
275	9	2	0	2	2	57 2.8	3.1	3.1	86 2.7	5	0	8	10
276	9	0	0	0	2	57	43	43	69	2.978	1	13	14
277	9	0	1	1	1	3.9 53	4	4	4	3.9882 5	0	12	16
278	9	0	0	0	2	3.0 96	2.8 57	2.8 57	2.8 82	2.923	0	7	9
270	9	0	0	0	2	2.5	2.0	2.0	1.8	2.096	0		9
279	9	0	0	0	1	71 2.7	01 2.5	01 2.5	2.7	2.6437	1	9	7
280	9	1	1	2	2	22	55	55	43	5	0	13	15
281	9	1	0	1	2	3.3 81	3.5 24	3.5 42	3.5 48	3.4987 5	0	14	14
						3.0	2.9	2.9	3.0	2.9697			
282	9	0	0	0	1	47 2.2	2.6	2.6	2.3	5	0	8	10
283	9	0	0	0	1	37	67	67	85	2.489	1	6	8
284	9	0	1	1	2	3.6 66	3.9 53	3.9 53	3.8 81	3.8632 5	0	14	16
205	0	•	4	4	_	3.1	3.3	3.1	3.4	3.2807	0	_	0
285	9	0	1	1	2	66 3.5	75 3.8	66	16 3.8	2.756	0	6	9
286	10	4	0	4	2	43 3.9	34 3.9	3.9	13 3.9	3.756	1	15	15
287	9	2	0	2	2	3.9 53	3.9 04	3.9 53	3.9 52	3.9405	20	18	19
288	9	0	0	0	1	3.5	2.7 09	2.7 09	2.8 76	2.9485	1	13	15
200			0	0		1.8	0.6	0.6	0.8	1.0115	1	13	13
289	8	0	0	0	2	33	67 2.9	67 2.9	79 2.7	2.9842	4	10	8
290	9	0	0	0	1	5	58	58	71	5	0	7	10
291	9	0	1	1	1	3.7 77	3.6 12	3.6 12	3.5 28	3.6322 5	0	13	14
						3.7	3.8	3.8	3.9	3.8455			
292	9	0	1	1	2	63	57	57	05		0	15	17

						2.0	2.2	2.2	2.0	2 5657	ı		
293	9	0	0	0	1	3.8 57	3.2 86	3.2 86	3.8 34	3.5657 5	0	16	17
233	3	0	0	U	1	2.7	2.8	3.2	2.5	2.8642	U	10	1/
294	9	2	1	3	2	16	59	86	96	5	2	15	16
						2.9	2.7	3.8	3.0	3.1612			
295	9	2	1	3	2	51	63	59	72	5	0	13	15
			_			2.1	2.9	2.7	2.3	2.5562			
296	9	2	1	3	2	68 2.8	06	63 1.5	88	5	0	12	14
297	8	0	1	1	1	09	2.1 65	1.5	1.4 06	1.973	1	9	
237	0		-	_	_	1.4	1.6	2.1	2.1			3	
298	9	1	0	1	2	74	69	65	44	1.863	2	7	9
						2.2	1.7	2.6	2.7	2.3687			
299	9	0	1	1	2	8	64	53	78	5	3	9	13
200	0	0	0		,	3.2	2.6	3.1	3.3	3.1005	0	10	12
300	9	0	0	0	2	77 1.4	67 1.4	25	33 1.2	1.4062	0	10	13
301	9	0	0	0	1	77	43	1.5	05	1.4002	3	11	10
301					_	2.7	2.5	2.4	2.6	2.6097			
302	9	0	0	0	1	78	23	43	95	5	13	5	4
						3.2	2.7	2.7	3.5	3.105			
303	9	1	1	2	2	86	93	93	48		0	13	15
204	10	0	0		1	2	3.4	2.7	2.7	3.0017	0	0	0
304	10	0	0	0	1	3	76 2.8	93	38 2.0	5	0	8	8
305	9	0	1	1	1	2.5	09	23	2.0	2.39	1	7	9
300					_	3.8	3.9	3.9	3.9	2 2225			
306	10	2	1	3	2	57	27	12	38	3.9085	0	12	15
							3.9	3.9	3.8	3.9055			
307	9	0	0	0	2	4	06	06	1		0	15	15
200	0	1	0	4	_	3.8	2.5	2.2	2.4	2.7652	0	12	1.4
308	9	1	0	1	2	57 2.7	71 2.9	23	2.5	5 2.8097	0	13	14
309	9	0	0	0	2	63	54	26	96	5	0	10	13
						3.1	3.8	3.9	3.9				
310	9	3	0	3	2	9	9	06	18	3.726	0	15	18
						3.8	3.2	2.5	3.3	3.2697			
311	9	0	1	1	2	88	86	71	34	5	0	13	15
212	9	0	0	0	1	3.3	3.4	2.9	3.5	3.322	0	15	16
312	9	0	0	0	1	81 3.7	29 3.5	54 3.8	3.3	3.6207	U	15	16
313	9	0	0	0	2	61	23	9	09	5.0207	1	14	17
						3.3	3.8	3.2	3.7	3.5477			
314	9	0	1	1	1	34	57	86	14	5	0	13	16
						3.7	3.7	3.4	3.5	3.623			
315	9	1	1	2	2	63	35	29	65		0	18	18
316	8	0	0	0	1	1.3 88	0.8 33	0.8 33	0.6 15	0.9172 5	5	10	9
310	0	0	0	0	1	3.1	3.6	2.8	2.8	3.1202	J	10	3
317	10	1	0	1	1	44	19	59	59	5.1202	0	11	12
						3.8	3.4	3.6	3.7	3.6547			
318	9	2	0	2	1	09	77	19	14	5	0	16	17
						3.5	3.4	3.4	3.3	3.459			
319	9	3	0	3	2	24	77	77	58		0	17	18
320	9	2	0	2	2	3.1 43	3.3 8	3.3 8	3.3 59	3.3155	3	14	14
320	3		0			2.5	2.7	2.7	2.2		J	14	14
321	9	2	0	2	1	23	14	14	61	2.553	0		13
						3.4	3.5	3.5	3.2	3.4202			
322	9	1	1	2	2	45	02	02	32	5	1	13	15
222		_	_			1.2	0.7	0.7	0.5	0.8385			_
323	8	0	0	0	1	37	63	63	91		8	8	5
324	9	2	0	2	2	3.0 49	3.4 76	3.4 76	3.3 34	3.3337 5	0	13	16
524	9		L U			49	70	70	54	Э	U	13	10

				ı	1		1						
325	9	0	1	1	2	2.1 12	1.9 45	1.9 45	1.7 79	1.9452 5	0	8	9
326	9	0	0	0	2	3.8	4	4	4	3.9525	0	14	17
						2.0	2.5	2.5	2.7	2.496			1,
327	9	0	0	0	1	47 3.8	71 3.9	71 3.9	95 3.8		0	12	14
328	9	2	0	2	2	34	16	16	74	3.885	0	15	17
329	9	0	0	0	2	3.8 1	3.7 63	3.7 63	3.5 49	3.7212 5	0	13	16
						3.4	4	4	4	3.8572			
330	9	0	0	0	2	29 3.8	3.8	3.8	3.8	5 3.8582	0	12	15
331	9	0	1	1	2	57	59	59	58	5	0	14	16
332	9	2	1	3	1	3.2 22	2.7 78	2.7 78	3.1 95	2.9932 5	2	13	14
						1.1	1.3	1.8	1.7	1.5145			
333	9	0	0	0	2	89	35	15 4	19 4	4	0	5	5
334	9	1	0	1	2	1.6	1.0	1.0	1.0		0	20	20
335	6	0	1	1	2	69	47	47	47	1.2025	6		
336	9	0	0	0	2	2.5 7	1.9 06	1.3 35	1.5 71	1.8455	0	10	9
					_	1.7	1.6	1.5	1.6	1.6337			
337	7	0	0	0	2	3.2	3.2	72 3.2	3.2	3 3555	1	6	5
338	10	4	0	4	1	37	87	83	15	3.2555	0	17	18
339	4	0	0	0	2	0.2 78	0.4 43	0.4 43	0.7 08	0.468	17	4	
240	0	0	1	4	2	3.6	3.6	3.6	3.6	3.6315	0	16	16
340	9	0	1	1	2	67 3.7	3.7	3.7	19 3.7	3.7265	0	16	16
341	9	3	0	3	2	16 3.5	3.1	3.1	62 3.1	3.2732	0	15	17
342	9	2	0	2	2	26	89	89	89	5.2752	0	13	16
343	4	1	0	1	2	3.9 16	3.9 18	3.6 2	3.9 34	3.847	0	15	17
343	-	1	0	1		0.6	0	0	0.2	0.2365			- 17
344	9	0	1	1	1	68			78		3		
345	9	1	1	2	2	3.3	4	4	3.8	4	1	16	19
346	9	2	1	3	2	35	3.8	3.8	89	3.706	4	14	16
348	9	0	0	0	2	2.1 43	2.3 33	2.3 33	2.3 57	2.2915	3	8	10
349	6	0	0	0	1	0.8 35	2.0 55	1.1 67	1.2 73	1.3325	44	5	1
343	0	0	0	0	1	3.2	3.0	3.0	2.6	3.0007	44		1
350	9	1	0	1	2	86 3.2	49 2.9	49	19 3.1	5 3.2822	0	13	14
351	8	3	1	4	1	09	53	3.8	67	5.2022	0	15	15
352	9	0	0	0	1	1	2.0 55	2.9 53	2.2	2.0645	0	14	13
						2.1	2.0	2.2	1.8	2.051			
353	9	0	0	0	1	1.9	55 2.4	34 2.4	05 2.2	2.2907	1	9	7
354	9	0	1	1	2	47	77	77	62	5	0	13	
355	9	3	0	3	2	2.9 53	3.3 8	3.3 8	3.4 28	3.2852 5	0	16	17
						2.2	2.1	2.1	2.1	2.172			
356	9	0	2	2	1	5 1.8	25 1.4	25 1.4	88 1.1	1.4652	0	11	12
357	9	0	1	1	2	1	3	3	91	5	0	7	9

358	9	0	1	1	2	2.5	2.2 93	2.2 93	2.3	2.349	1	11	11
						3.8	3.9	3.9	3.9	3.8877			
359	9	0	1	1	2	0.9	0.8	0.8	29	5	0	14	16
360	9	0	0	0	1	53	59	59	0.5 25	0.799	0		
						0.4	0.5	0.5	0.4	0.5157			
361	8	0	0	0	1	29	73 3.9	73 3.9	88 3.9	5	2	7	6
362	9	1	3	4	2	4	53	53	76	3.9705	0	15	19
						2.2	2.7	2.7	2.8	2.6762			
363	9	0	0	0	2	77 3.6	78 3.6	78 3.6	72 3.7	5	1	11	14
364	9	4	0	4	2	67	2	2	15	3.6555	0	12	18
265	0	0	0	0		3.5	3.2	3.2	3.1	3.297	4	0	4.4
365	9	0	0	0	1	2.2	2.3	2.3	9 2.5		1	9	11
366	9	0	1	1	2	39	81	81	49	2.3875	0		
367	9	1	0	1	2	3.8 1	3.9 06	3.9 06	3.9 53	3.8937 5	0	10	17
307	9		0	1		2.8	2.5	2.5	2.7		U	10	17
368	9	0	0	0	1	57	73	73	19	2.6805	0	16	13
369	9	1	0	1	1	1.4 45	1.7 78	1.7 78	2.4 34	1.8587 5	1	7	8
303	3			-		3.7	3.7	3.7	3.7				
370	9	0	1	1	2	14	14	14	62	3.726	0	10	13
371	8	0	0	0	1	3.1 67	3.0 02	3.0 02	2.6 4	2.9527 5	0	14	11
	_					2.3	2.9	2.9	2.9	2.7987			
372	9	0	1	1	2	81	54	54	06	5	4		10
373	9	0	0	0	2	3.8 57	3.6 67	3.6 67	3.7 5	3.7352 5	0	14	15
						1.5	0.5	0.5	0.3	0.7435			
375	5	0	1	1	1	24	71 3.9	71 3.9	08 3.9	3.9292	12	6	4
376	8	0	0	0	2	4	06	06	05	5.9292	0	14	17
						2.6	1.8	1.8	1.8	2.0415			
377	9	0	0	0	1	2.2	33 1.8	33 1.8	9 1.4	1.8542	2	18	16
378	9	0	0	0	2	78	33	33	73	5	5	10	6
270	0	0	0	0	_	3.9	4	4	4	3.9897	0	4.5	17
379	9	0	0	0	2	59 1.7	1.9	1.9	1.4	5 1.7837	0	15	17
380	9	0	0	0	1	77	43	43	72	5	4	5	7
381	8	1	0	1	1	3.0 55	3.1 67	3.1 67	3.1 67	3.139	0	13	16
301	O	1	0	1	1	3.7	3.8	3.8	3.8	3.8042	U	13	10
382	9	0	0	0	1	63	1	1	34	5	0	15	16
383	9	0	0	0	1	3.6 02	3.6 02	3.6 02	3.2 13	3.5047 5	0	8	15
						3.8	3.9	3.9	3.8	3.9035			13
384	9	0	0	0	1	1	53	53	98	3.3033	4	14	17
385	6	0	0	0	1	1.9 53	2.0 49	2.0 49	1.4 05	1.864	6	12	
						3.7	3.8	3.8	3.8	3.8332			
386	9	0	0	0	1	61	57 0.6	57 0.6	58	5	0	14	14
387	6	0	0	0	1	0.5	67	67	0.4	0.5585	16	2	2
	_	_	-	_		0.8	2.3	2.3	2.3	2.0047	_	_	_
388	6	0	0	0	1	88 2.8	77 2.4	77 2.4	77 2.5	5	6	4	6
389	9	0	0	0	1	88	47	47	58	2.585	0	15	14
200						1.7	1.5	1.5	1.4	1.5672			
390	9	0	0	0	2	16	71	71	11	5	0	13	15

					1	2.6	2.7	2.7	2.7				
391	9	2	0	2	2	3.6 67	3.7 13	3.7 13	3.7 85	3.7195	0	15	18
331			<u> </u>		_	2.6	2.8	2.8	2.6	2.7257			10
392	9	0	0	0	2	19	09	09	66	5	0	12	11
393	9	0	1	1	2	3.3 76	3.3 34	3.3 34	3.3 55	3.3497 5	0	14	16
					_	2.5	2.4	2.4	2.3	2.4705	-		
394	9	0	1	1	2	71	76	76	59		0	12	13
395	9	0	0	0	2	4	4	4	4	4	0	13	15
396	9	0	1	1	2	3.9 53	4	4	3.9 29	3.9705	0	8	13
330	3				_	3.7	3.6	3.6	3.5	3.6277	Ū		15
397	9	3	0	3	2	78	1	1	13	5	0	14	16
398	9	2	0	2	2	2.8 57	2.3 81	2.3 81	2.4 23	2.5105	0	9	13
						3.3	3.6	3.6	3.5	3.5657			
399	9	1	1	2	2	81 3.1	67 2.7	67 2.7	48 2.4	5 2.7552	0	17	20
400	9	3	0	3	2	91	13	13	04	5	1	14	15
			_			3.4	3.1	3.1	3.1	3.2432			
401	10	1	0	1	2	29 3.8	89 3.9	89 3.9	66 3.9	5	1	15	11
402	9	1	1	2	2	34	59	59	56	3.927	0	7	14
402	0	4	4	,	4	1.9	2.1	2.1	1.9	2.057	1	42	12
403	9	1	1	2	1	45 0.6	67 0.3	67 0.3	49 0.4	0.4442	1	13	12
404	9	1	0	1	2	67	33	33	44	5	3	6	6
405	9	3	0	3	2	3.7 63	3.6 67	3.6 67	3.7 14	3.7027 5	0	14	18
403	9	<u> </u>	0	<u> </u>	2	3.9	3.6			3.8927	0	14	10
406	9	0	1	1	2	04	67	4	4	5	0	14	17
407	9	0	0	0	2	3.6 2	4	3.6 66	3.7 86	3.768	0	14	18
	3				_	3.8	3.7	3.8	3.9	3.85	Ū		- 10
408	9	2	0	2	2	57	78	59	06	3.03	0	14	19
409	9	2	0	2	2	3.9 53	3.9 53	3.9 53	3.9 53	3.953	0	16	20
						3.7	3.4	3.5	3.5	3.6035			
410	9	0	2	2	2	91 3.7	76 3.7	3.6	63 3.6	3.0033	0	18	18
411	9	0	0	0	2	78	14	67	39	3.6995	0	13	14
412	10	1	0	1	2	4	4	4	4	4	0	16	19
						3.3	3.5	3.4	3.4	3.4525			
413	9	2	0	2	2	81 3.7	3.5	76 3.8	29 3.5	3.4323	0	15	18
414	9	0	0	0	2	14	24	59	45	3.6605	0	14	16
416	9	0	0	0	1	4	4	4	4	4	0	9	16
1.00						2.9	2.8	2.8	2.6	2.8265			
417	9	4	0	4	2	53	52	3.2	91		4	11	11
418	8	0	0	0	2	3.1 9	3.7 51	3.2 86	3.2 62	3.3722 5	0	13	14
						3.9	2.5	3.4	3.5	3.3805			
419	9	1	0	1	2	53 1.0	0.1	77 0.0	72 0.0		0	14	14
420	6	0	0	0	2	49	25	96	52	0.3305	6	6	5
43.4						3.8	3.8	3.7	3.7	3.7922			
421	9	0	0	0	2	76 2.8	2.5	51 2.5	2.4	5	0	12	15
422	9	0	0	0	2	33	02	02	73	2.5775	0	13	13
423	4	0	0	0	1	0	0	0	0	0	1		
		-	_			3.3	3.3	3.3	3.5	3.407		_	
424	9	0	0	0	2	78	75	75			0	7	12

				1									
425	9	0	0	0	2	3.8	3.9 53	3.9 53	3.9 76	3.923	0	9	14
423	9	0	0	U	2	2.8	3.3	3.3	3.1	3.1667	U	9	14
426	9	0	0	0	2	57	33	33	44	5	0	11	13
427	9	0	1	1	,	2.5 26	2.5 7	2.5 7	2.5 89	2.5637 5	0	8	10
427	9	0	1	1	2	20	3.7	3.7	3.6	3.8032	U	0	10
428	9	4	0	4	2	4	61	61	91	5	0	13	16
420	0	0	0	0	,	3.8	3.9	3.9	3.9	3.8985	0	12	
429	9	0	U	0	2	57 1.3	1.2	1.2	29 0.8	1.1742	U	12	
430	8	0	0	0	1	88	23	23	63	5	0	8	5
431	9	1	0	1	2	3.5 24	3.5 71	3.5 71	3.6 66	3.583	0	16	19
431	9	1	0	1	2	3.6	3.8	3.8	3.8	3.7802	U	10	19
432	9	1	0	1	2	67	1	1	34	5	0	14	18
433	9	2	0	2	1	2	1.7 23	1.7 23	1.1 83	1.6572 5	1	13	13
							0	0	0	0			13
434	9	0	0	0	2	3.1	3.3	3.3		3.3632	0	3	
435	9	0	0	0	2	91	81	81	3.5	5	1	10	13
426	10	4	0	4	2	3.9 04	3.8	3.8 59	3.9 06	3.882	0	15	17
436	10	4	0	4	2	2.7	59 3.6	3.6	3.6	2.447	U	13	17
437	9	1	1	2	2	61	2	2	67	3.417	0	14	15
438	9	0	0	0	2	1.2 86	1.0 47	1.0 47	1.0 24	1.101	9	6	6
436	9	0	0	0		3.8	3.7	3.7	3.7	2.770	3	0	0
439	9	0	0	0	2	33	78	78	23	3.778	0	13	15
440	9	4	0	4	2	3.7 5	3.7 93	3.7 93	3.8 76	3.803	0	18	20
440	<u> </u>		0	4		3.7	3.7	3.7	3.8	3.7732	- 0	10	20
441	9	2	0	2	2	14	61	61	57	5	0	15	20
442	9	0	0	0	2	2.9 99	3.0 97	3.0 97	3.1 55	3.087	0	13	13
772						3.0	2.8	2.8	2.7	2.853	- 0	13	15
443	9	0	0	0	1	02	33	33	44	2.055	0	12	11
444	9	2	0	2	2	3.7 16	3.6 67	3.6 67	3.2 86	3.584	1	15	16
	_			_		2.1	2.2	2.2	2.4	2.254			
445	9	0	0	0	2	12	22	22	6		0	12	12
446	9	0	0	0	1	3.5 71	3.3 81	3.3 81	3.3 34	3.4167 5	0	8	9
						1.9	0.9	0.9	0.8	1.1615			
447	7	0	0	0	1	53 3.8	06 3.6	06 3.6	81 3.5	1.1013	1		
448	10	0	0	0	1	3.8	19	19	3.5 48	3.649	0	13	13
							3.1	3.1	3.1	3.1132			
449	9	1	0	1	2	3.3	43 3.5	43 3.5	67 3.5	5	0	12	15
450	9	0	0	0	1	81	73	73	49	3.519	0	13	15
						3.9	4	4	4	3.9882			1.5
451	9	0	0	0	1	53 3.8	3.5	3.5		5	1	11	16
452	9	0	0	0	1	34	43	43	3.5	3.605	0	9	14
453		4	^	4		3.7	3.9	3.9	3.7	3.8385	4	45	47
453	9	1	0	1	2	61 1.1	0.7	0.7	85 0.8	0.8807	1	15	17
454	8	0	0	0	1	44	61	61	57	5	3	6	5
/EE	0	0	1	1	1	3.8	4	4	3.9	3.9525	0	10	1.1
455	9	0	1	1	1	57 2.7	3.0	3.0	53 3.2	3.0302	U	13	14
456	8	1	0	1	1	14	96	96	15	5	2	14	16

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457	9	0	0	0	2	1.6 67	1.8 32	1.8 32	1.4 36	1.6917 5	0	12	10
437	9	0	U	U	2	2.2	1.9	1.9	1.4		U	12	10
458	9	1	0	1	1	87	53	53	77	1.9175	6	13	14
459	9	1	0	1	,	3.1 67	3.1 12	3.1 12	3.0 83	3.1185	0	11	13
439	9	1	0	1	2	2.3	1.7	1.7	1.7	1.9332	U	11	15
460	9	1	0	1	1	75	93	93	72	5	1	14	14
461	_	0	0	0	1	0.1	0.1	0.1	0.0 96	0.167	12	4	2
461	5	0	0	0	1	2.0	91 1.6	91 1.6	1.3		13	4	2
462	8	0	0	0	1	49	67	67	81	1.691	0	12	8
463	9	0	2	2	2	1.9 51	1.5 24	1.5 24	1.8 81	1.72	3	9	10
403	9	0	2	2	2	3.0	2.8	2.8	3.0	2.9322	3	9	10
464	9	0	1	1	2	58	35	35	01	5	0	12	12
465	9	0	0	0	1	1.7 23	1.7 78	1.7 78	1.6 39	1.7295	8	10	9
403	9	0	U	U	1	3.7	3.7	3.7	3.6	3.7392	0	10	9
466	9	1	0	1	2	63	63	63	68	5	1	16	17
467	0	0	0	0	1	3.1 43	3.0 03	3.0	2.9 54	3.0257	0	11	12
407	9	0	0	0	1	2.1	2.0	2.0	2.2	5	0	11	12
468	7	0	1	1	1	67	57	57	31	2.128	0	9	9
469	9	1	0	1	2	3.4 29	3.3 81	3.3 81	3.3 81	3.393	0	14	17
409	9	1	U	1	2	2.1	1.7	1.7	1.4	4.764	U	14	17
470	7	0	0	0	2	43	13	13	87	1.764	0	13	11
471	8	0	0	0	2	3	2.3 8	2.3 8	2.3 8	2.535	0	14	13
4/1	0	0	U	U	2	3.1	2.8	2.8	2.7	2.8872	U	14	13
472	9	1	0	1	2	43	1	1	86	5	0	14	15
473	8	0	1	1	1	3.0 43	2.8 34	2.8 34	2.6 26	2.8342 5	1	14	12
								0	0	0		14	12
474	4	0	0	0	1	1.1	1.1	1.1	0.9	1.1062	0		
475	7	0	0	0	1	9	43	43	49	5	4	3	5
476	0	0	0	0		3.7	3.8	3.8	3.8	3.8097	0	11	15
476	9	0	0	0	2	61 3.8	3.9	3.9	58 3.9	5 3.9347	0	11	15
477	9	0	0	0	1	57	53	53	76	5	0	14	16
470	0	1	0	1	4	2.8	2.4	2.4	2.2	2.5065	7	1.4	15
478	9	1	0	1	1	9 1.8	43 1.4	43 1.4	5 1.4		7	14	15
479	9	0	0	0	2	33	45	45	45	1.542	0	9	8
480	9	0	0	0	2	2.9 51	3.0 47	3.0 47	2.7	2.9397 5	0	12	1.4
480	9	U	0	0	2	3.1	3.3	3.3	3.2	3.2932	U	13	14
481	9	3	0	3	2	43	83	83	64	5	0	15	17
482	9	0	1	1	1	3.1 43	2.8	2.8	2.5	2.8217	1	11	12
482	9	0	1	1	1	1.7	1.0	1.0	1.0	5	1	14	12
483	7	0	0	0	2	23	55	55	55	1.222	1	8	7
101	0	3	^	2	1	3.7 08	3.8	3.8	3.9	3.8445	0	12	17
484	9	3	0	3	1	1.9	76 2.3	76 2.3	18 2.5	2.25:	U	12	17
485	9	0	0	0	2	53	83	83	65	2.321	0	10	12
486	7	0	1	1	2	2.5 98	1.2 78	1.2 78	1.2 78	1.608	3	8	
480	/	U	1	1		3.2	2.5	2.5	2.3	2.6937	3	٥	
487	9	0	0	0	2	08	85	85	97	5	0	11	9
488	9	า	0	2	2	3.9 53	3.9 04	3.9 04	3.9 29	3.9225	0	15	10
488	9	2	0	2		53	04	υ4	29		U	15	18

					ı	2.0		ı — —	1	2.0007			
489	9	3	0	3	2	3.9 59	4	4	4	3.9897 5	0	18	18
						3.2	3.2	3.2	3.0	3.1715			
490	9	2	0	2	2	39 1.8	23 1.8	23 1.8	01 1.6		1	15	16
491	9	0	0	0	1	09	57	57	66	1.7972 5	1	13	10
						3.7	3.8	3.8	3.9	3.8515			
492	9	1	1	2	2	63 1.1	57 0.8	57 0.8	29 0.5	0.8747	0	14	15
493	7	0	0	0	2	67	88	88	56	5	3	8	2
						2.9	2.9	2.9	2.7	2.912			
494	9	0	0	0	1	53 3.4	54 3.6	54 3.6	87 3.7	3.6257	3	14	14
495	9	1	0	1	2	77	2	2	86	5.0257	0	15	16
						1.1	0.8	0.8	1	0.973		,	
496	9	0	0	0	1	12 2.3	9 2.4	9 2.4	2.1	2.3697	1	6	4
497	8	0	0	0	1	34	77	77	91	5	0	12	12
400	0	0	4		2	3.1	3.3	3.3	3.4	3.3135	0	40	42
498	9	0	1	1	2	68 1.6	34 2.0	34 2.0	18 2.1	1.9662	0	10	13
499	9	0	0	0	1	65	41	41	18	5	2	9	9
501	0	2	0	2	_	3.3	3.0	3.0	3.3	3.2375	0	15	17
501	9	3	0	3	2	81 0.1	94 0.1	94 0.1	81 0.1		0	15	17
502	5	0	0	0	1	9	12	12	12	0.1315	4	3	2
502	0	4	0	4	_	3.7	3.9	3.9	3.7	3.8387	0	17	10
503	9	1	0	1	2	61 2.9	3.1	04 3.1	86 3.1	5 3.1072	0	17	18
504	9	3	0	3	2	06	9	9	43	5	0	13	15
EOE	0	0	1	1	,	2.2 4	2.2	2.2	2.1	2.2152	_	0	0
505	9	0	1	1	2	4	39 1.2	39 1.2	43 0.8	5	5	8	8
506	7	0	0	0	1	1.5	77	77	72	1.2315	0	8	7
507	9	0	0	0	2	3.4 77	3.2 87	3.2 87	3.1 91	3.3105	0	11	14
307	9	0	0	0	2	3.0	2.8	2.8	3.0	2.0525	U	11	14
508	9	2	0	2	2	43	74	74	63	2.9635	0	15	16
509	9	0	0	0	2	3.5 43	3.6 25	3.6 25	3.7 09	3.6255	0	14	16
309	9	0	0	0	2	3.6	3.8	3.8	3.8	3.8327	0	14	10
510	9	0	1	1	2	67	88	88	88	5	5	14	14
511	9	0	0	0	1	2.8 09	2.7 14	2.7 14	2.8 1	2.7617 5	0	13	
311	,	0	0	0	1	3.9	3.8	3.8	3.8		- 0	13	
512	9	0	1	1	2	16	33	33	12	3.8485	0	16	17
513	9	0	0	0	2	2.6 12	2.9 47	2.9 47	2.4 18	2.731	10	9	7
313	,	<u> </u>				3.5	3.2	3.2	3.3	3.3707	-10		,
514	9	0	0	0	2	43	93	93	54	5	1	14	16
515	9	2	1	3	2	4	4	4	4	4	0	20	19
516	10	0	^	0	2	3.4 59	3.3	3.3	3.4	3.4175	0	11	16
210	10	0	0	0	2	3.6	76 3.6	76 3.6	59 3.6	2 6 4 2 5	U	14	15
517	9	4	1	5	2	67	2	2	67	3.6435	0	16	18