



Making local video game history index

Akito INOUE

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Replaying Japan 2018

akitoinoue.ac [at] gmail.com

1.

Purpose and contexts of this study

What is “Japanese video game”

- Kohler, Chris. "*Power-up: how Japanese video games gave the world an extra life.*" (2004).
- Picard, Martin. "*The foundation of geemu: A brief history of early Japanese video games.*" *Game Studies* 13.2 (2013).
- Pelletier-Gagnon, Jérémie. *Video Games and Japaneseness: An analysis of localization and circulation of Japanese video games in North America.* Diss. McGill University, 2011.

What is “Japanese video game”?

	Made in Japan	Made in Western Countries
Famous in English context only	Zaxxon(1982) Jet Grind Radio(2000) Cooking Mama(2006)	Tempest(1981) Canabalt(2009)
Famous in Japan context only	moon(1997) Torneko no Daibōken(1993)	
Famous in Both context	Super Mario Bros.(1985) The legends of Zelda(1985) Metal Gear Solid(1998)	SimCity(1991) Call of Duty 4: Modern Warfare(2007) GTAV(2013)

*This data based on Inoue,Fukuda(2016)

Purpose of the study

- Japanese video game context and English video game context, each context have much local bias. We want to know local game history biases.
- We want to know the impression diversity in video game history.

Context in social science

Context A: Nationalism Studies

Hobsbawm, E., & Ranger, T. (Eds.). (2012). *The invention of tradition*. Cambridge University Press.

Oguma, E. (2002). *A genealogy of 'Japanese' self-images*. ISBS.

Context B: Cultural Reproduction

Bourdieu, P. (1984). *Distinction: A social critique of the judgement of taste*. Harvard University Press.

Context C: Multiple equilibria

Aoki, M. (1988). *Information, incentives and bargaining in the Japanese economy: a microtheory of the Japanese Economy*. Cambridge University Press.

Etc..

Precedence studies

Game Review Method: Precedence Studies

[Physiological Evaluation]

Mandryk, R. L. (2008). Physiological measures for game evaluation. *Game usability: Advice from the experts for advancing the player experience*, 207-235.

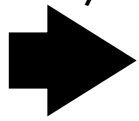
Nacke, L. E. (2015). Games user research and physiological game evaluation. In *Game User Experience Evaluation* (pp. 63-86). Springer International Publishing.

[Automatic Review Algorithm]

Nielsen, T. S., Barros, G. A., Togelius, J., & Nelson, M. J. (2015, April). General video game evaluation using relative algorithm performance profiles. In *European Conference on the Applications of Evolutionary Computation* (pp. 369-380). Springer International Publishing.

[Usability Evaluation]

Pinelle, D., Wong, N., & Stach, T. (2008, April). Heuristic evaluation for games: usability principles for video game design. In *Proceedings of the SIGCHI Conference on Human Factors in Computing Systems* (pp. 1453-1462). ACM.



They were trying to make valid review method. However I'd like to know review "bias" problems.

Metacritique's meta score

Adams et al(2013)

On the Validity of Metacritic in Assessing Game Value

Adams Greenwood-Ericksen, Scott R. Poorman, Roy Papp

Eludamos. Journal for Computer Game Culture.
2013; 7 (1), pp. 101-127

$R = 0.55$ $p\text{-value} = \text{under } 0.05$

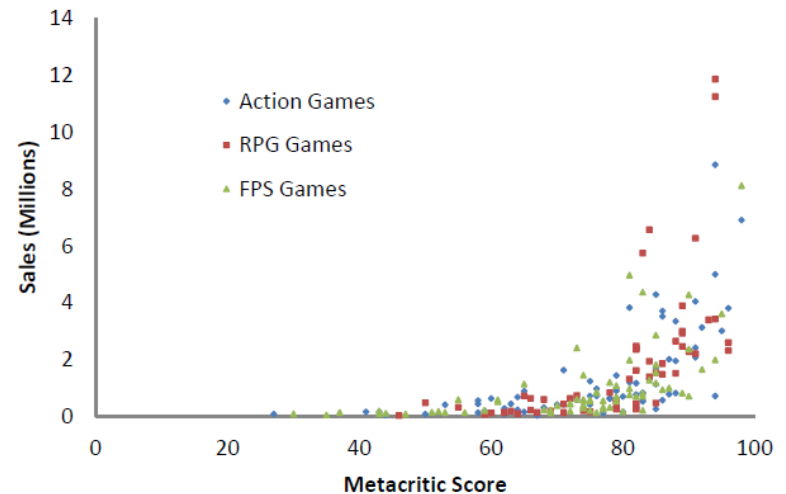


Figure 1. Metacritic Score versus Sales (in Millions) by Genre

BEN GIFFORD(2009=2013)

"REVIEWING THE CRITICS: EXAMINING POPULAR VIDEO GAME REVIEWS THROUGH A COMPARATIVE CONTENT ANALYSIS", Bachelor of Arts in Journalism at the Cleveland State University, Cleveland, OH/ MASTER OF APPLIED COMMUNICATION THEORY AND METHODOLOGY at the CLEVELAND STATE UNIVERSITY

Daisuke Yoshinaga(2015) : User's game review score is unstable. It have weakness against flaming.

Index/Scale review factors

Naito[1988],

Mukai[2004],Kalimo[2005],Murakami[2006]

1. Comparability
2. Reliability, Robustness
3. Validity
4. Referring Bias
5. Perfectively

Kalimo, E. (2005). OECD Social Indicators for 2001: a critical appraisal. *Social Indicators Research*, 70(2), 185-229.)

向井信一 (2004). 「生活の質」 評価に関する一考察. *同志社政策科学研究*, 6(1), 203-222.

内藤正明. (1988). "環境指標" の歴史と今後の展開. *環境科学会誌*, 1(2), 135-139

村上宣寛(2006). 『心理尺度の作り方』 北大路書房

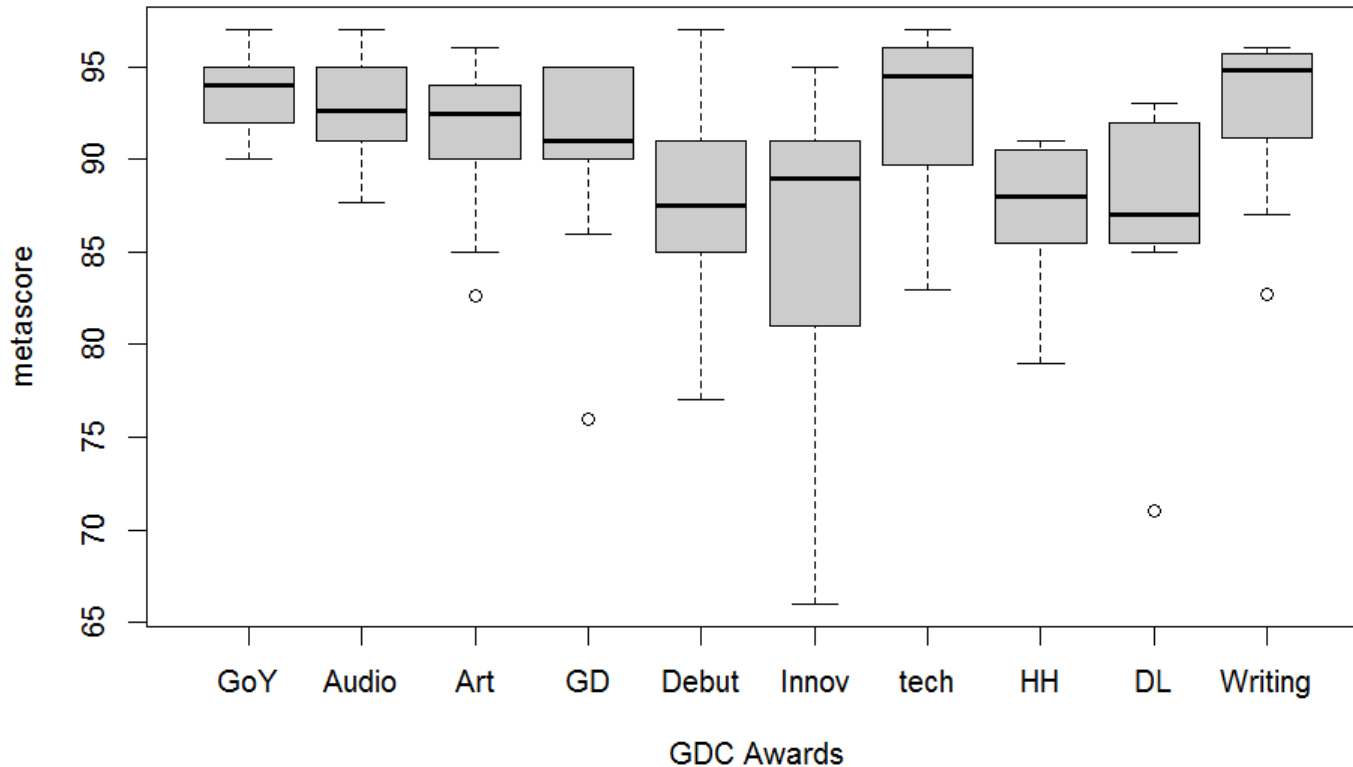
2.

Findings 2015-2017

Step of this research

	Main theme	Data Aggregation	Statistic Analysis	Making Valid Index
2015	Proof of the review's bias		△	
2016	The detail of local bias	△	△	
2017	The structure of local bias	△	○	
2018	Making index of local bias	△	△	△
2019~	Refine the index validity			

Inoue(2015) : Game Developer Choice Awards * Metascore



➤ Metascore system is weak in reviewing innovative factor.

Method

1. Aggregate game title lists

- Picking up game lists.
- Making Categories
- Aggregate lists

2. Statistical Analysis

- Correlation coefficient
- Multivariate analysis
 - Principal component analysis(PCA)
 - Exploratory Factor Analysis(EFA) / simplimax
 - Structural Equation Modeling(SEM)

To aggregate lists

At first, Picking up video game titles from

- a. video game books, awards, exhibitions about video games, and sales data.
- b. If the same video game title was found from several resources, the video game title gets a high score.
- c. Identifying “title” level, not “version(manifestation)” level.

Basic Method : example

Title	Japanese Category 1		JP Score	EN Category 2			EN Score
	JP Awards A	JP Awards B		Book A	Museum A	Museum B	
	Super Mario Bros			1	1		
Wii Sports	1		1	1	1	2	
Final Fantasy VII	1	1	2		1	1	
Super mario 64	1		1		1	1	
Wii Fit	1	1	2			0	



Next,
Standardizing scores for each category

Data

	2016	2017
Game titles	4800 titles	5700 titles
Game lists	48 lists	131 lists

◆ Problem: Name Identification

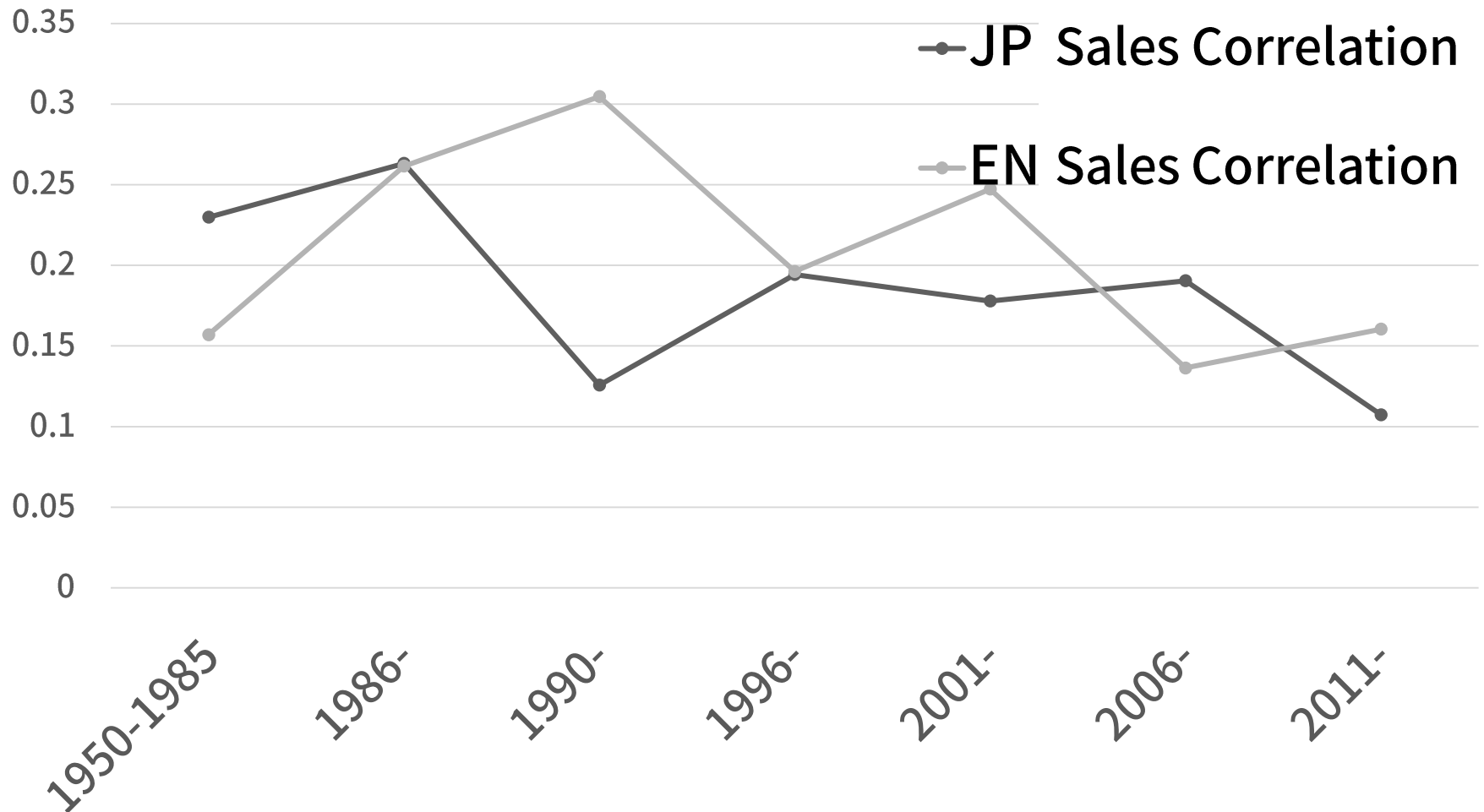
Which English title and which Japanese title is same work ?(I spent many days for identify them)

- ✓ Some problem may be left, in this data.
- ✓ We need “Work” and “Version(Manifest)” relation database.

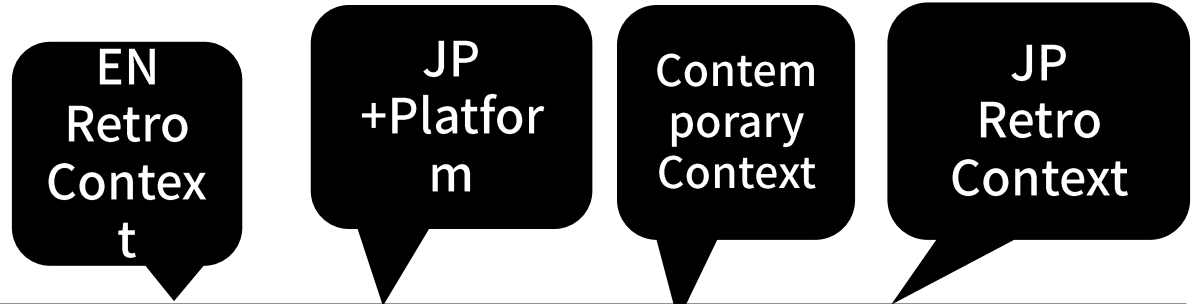
Categories

	Authorized	Non – Authorized Collective data
Contemporary	Awards	Sales data
Retrospective	Book of game history, Museum Exhibition	Game mania vote lists Ex : "Top 100 games in history"

Inoue,Fukuda(2017) : Sales correlation to other review domains (in important videogame titles)



Exploratory Factor Analysis(EFA)



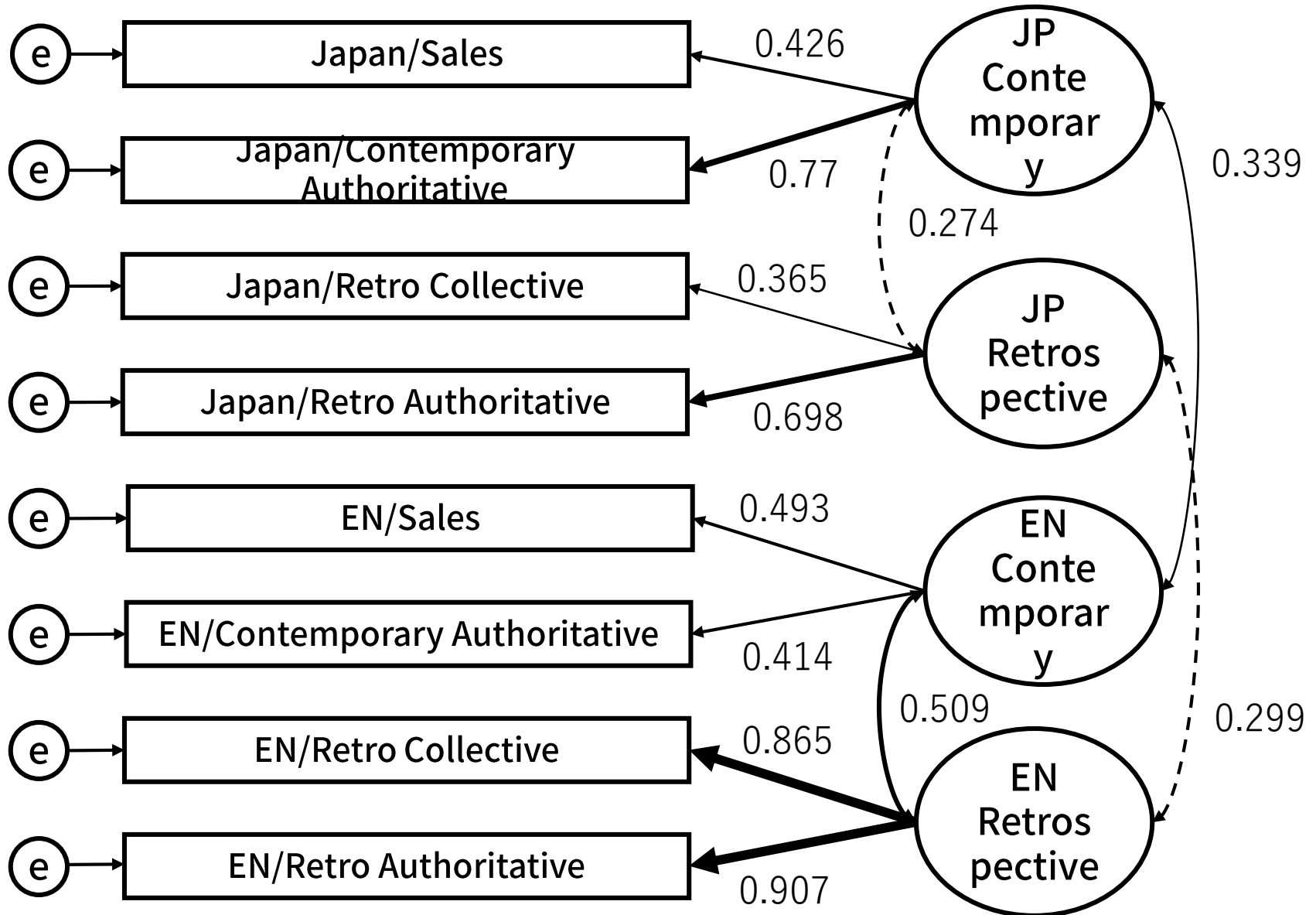
		Factor I	Factor II	Factor III	Factor IV	Factor V
Platform		0	0.64	-0.25	0	-0.26
Release Year		0	-0.14	0.57	-0.25	0.09
Japan Context	Sales/DL	0.08	0.42	0.17	-0.01	0.05
	Contemporary-Authorit	0.15	0.58	0.34	0	0.11
	Retrospective-Collectiv	0.14	0.19	-0.32	0.27	0.24
	Retrospective-Authorit	0.16	0.32	-0.16	0.26	0.35
English Context	Sales/DL	0.2	0.2	0.23	0.05	-0.11
	Contemporary-Authorit	0.23	-0.13	0.33	0.01	0
	Retrospective-Collectiv	1	0	0	0	0
	Retrospective-Authorit	0.79	0.14	0	0.43	-0.1

Method: simplimax
RMSR: 0.02

The df corrected root mean square of the residuals: 0.04
RMSEA index = 0.052

SEM (Structural Equation Modeling)

CFI:0.968
RMSEA:0.053
SRMR:0.036



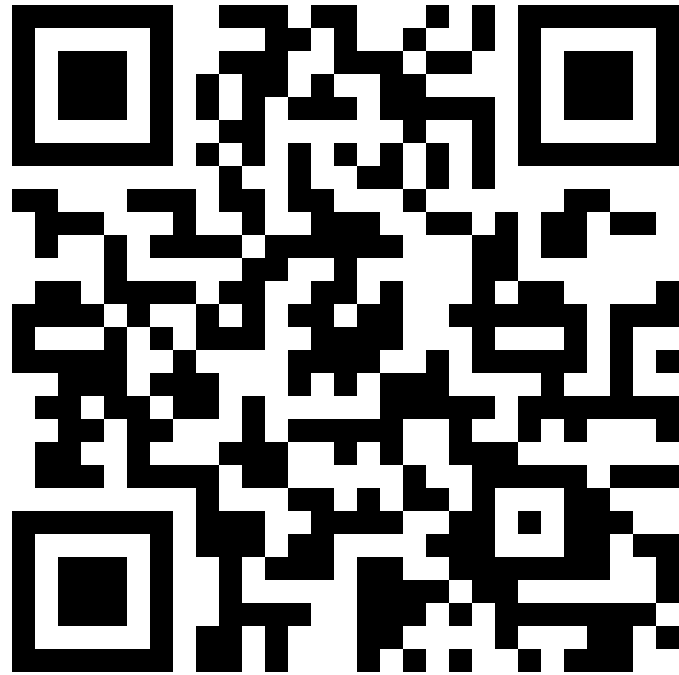
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Progress of this year.

This Year Progress,

- A) To Publicize these data
- B) Asking opinions and review for refine the data.
- C) To Refine Data
 1. Counting some lists out to make distinctive scale. Then re-calculate the index scores.
 2. Add new categories
 3. Refined scoring logic

A. Published this data on web



http://www.critiqueofgames.net/local_index/

Game Evaluation Bias Index ver 0.2

Ver 0.1 Release:2018/2/20

Ver 0.2 Release:2018/8/20

Akito Inoue(e-mail : hiyokoya6 [at] gmail.com)

[CSV Download](#) / [HTML table](#)

- This data is made as a basic data for game study.
このデータはゲーム研究のための基礎資料として作成されています。
 - If you cite this data in your paper, Please specify that the data published in "A. Inoue (2018), Making Local video game history index, Replaying Japan".
このデータを引用する場合、A.Inoue(2018),Making Local video game history index, Replaying Japanと記述してください。
 - To make this data, We used about 130 game lists([link : source data lists](#)).
このデータを作成するために、約130のゲームリスト ([リンク : ソースデータリスト](#)) を使用しました。
-

[Questionnaire](#)

- To refine this data, Please cooperate to answer the questionnaire

Game Evaluation Bias Index ver 0.2

GPIr	Title	Platform	Release	Language Bias Possibility	EN Index	JP Index	Time-Order Bias Possibility
0392109500633	Final Fantasy 7	PS	1997		75.0	100	
0392111100001	SUPER MARIO 64	N64	1996		89.8	65.9	
0392111100090	Zelda no Densetsu Toki no Ocarina	N64	1998		100	40.6	
0392109501536	METAL GEAR SOLID	PS	1998		75.6	64.4	
0392100100548	Super Mario Bros. 3	FC	1988		61.8	65.9	
0392105800039	Zelda no Densetsu Kamigami no Triforce	SFC	1991		63.5	60.9	
0392127200247	BIOSHOCK	XB360	2008		75.3	40.6	
0392109500224	Bio Hazard	PS	1996		29.7	81.2	
0392115600021	Bio Hazard	GC	2005		58.3	51.7	
0392105800102	STREET FIGHTER 2	SFC	1992		41.0	65.9	
0392104800604	Pokémon Red and Blue	GB	1996		62.1	44.1	
0392127200096	Gears of War	XB360	2007		44.9	55.8	
0392100100066	SUPER MARIO BROS.	FC	1985		62.3	34.0	
-	Half Life 2	PC	2004		89.0	6.0	
0392113902845	Wanda to Kyoza	PS2	2005		59.2	35.5	

B. I'm asking to review for refine the data.

Short Ver : 80 games. Probably, No one know all kind of contexts. It's include several characteristic games, in each contexts.

JP Bias long Ver : Probably, Non-Japanese people are not familiar with these games.

EN Bias long version : Probably, Japanese people are not familiar with these games.

To refine this data, Please cooperate to answer the questionnaire

C1. To omit some lists

Check the similarity of the game lists.

Table. Correlations of each game lists

	X.帰ってファミ通国内売上あそぶ.	X.ニッポンX.ニッポン	X.ファミ別冊宝島	ファミ通メディア						
1 .帰ってきた名作	1.00	-0.06	-0.06	0.12	0.03	0.04	0.01	0.01	-0.02	-0.01
2 ファミ通スコア.特	-0.06	1.00	0.25	-0.02	0.04	0.05	0.10	-0.02	0.03	0.06
3 国内売上.国内50万	-0.06	0.25	1.00	-0.02	0.07	0.15	0.16	0.07	0.05	0.12
4 あそぶ.ゲーム展.2	0.12	-0.02	-0.02	1.00	-0.01	0.05	0.03	-0.01	-0.01	0.00
5 .ニッポンのマンガ	0.03	0.04	0.07	-0.01	1.00	0.28	0.10	-0.01	0.03	0.12
6 .ニッポンのマンガ	0.04	0.05	0.15	0.05	0.28	1.00	0.22	0.07	0.08	0.12
7 .ファミ通1300号	0.01	0.10	0.16	0.03	0.10	0.22	1.00	0.09	0.18	-0.01
8 別冊宝島.僕達の如	0.01	-0.02	0.07	-0.01	-0.01	0.07	0.09	1.00	0.28	-0.01
9 ファミ通.ゲーム年	-0.02	0.03	0.05	-0.01	0.03	0.08	0.18	0.28	1.00	-0.01
10 メディア芸術祭	-0.01	0.06	0.12	0.00	0.12	0.12	-0.01	-0.01	-0.01	1.00
11 CESA大賞..日本ケ	-0.04	0.28	0.34	-0.02	0.12	0.19	0.00	-0.03	-0.03	0.18
12 CEDEC.Award	0.00	0.08	0.05	-0.01	0.17	0.15	0.03	0.02	0.02	0.13
13 Strong.museum..	0.04	-0.02	0.00	0.15	0.00	0.02	0.00	0.08	0.00	0.00

Some lists showed high similarity. Probably, these lists referred or aggregated other lists.

	Easy.Allies.For	Empire.Magaz	EDGE.Magazin	Empire.Magaz	EPN.tv2014	Fandomania.c	Favslis2017	FHM2010	G4tv...X.play.20	GameFAQs20	GameInformer	GameRanking
BroBible.com201	0.17	0.24	0.11	0.25	0.32	0.21	0.23	0.26	0.47	0.08	0.31	0.21
1UP.com2011	0.12	0.22	0.00	0.28	0.24	0.19	0.11	0.24	0.30	0.05	0.37	0.08
Easy Allies Forum	1.00	0.57	0.32	0.34	0.21	0.38	0.72	0.20	0.35	0.30	0.42	0.43
Empire.Magazine	0.57	1.00	0.25	0.48	0.32	0.45	0.62	0.28	0.36	0.30	0.47	0.45
Favslis2017	0.72	0.62	0.31	0.37	0.25	0.40	1.00	0.24	0.39	0.33	0.45	0.46
GameRankings.c	0.43	0.45	0.29	0.33	0.33	0.29	0.46	0.22	0.33	0.18	0.35	1.00
gamesradar.com2	0.19	0.24	0.12	0.23	0.25	0.25	0.23	0.16	0.37	0.07	0.26	0.21
IGDB.com2017	0.51	0.55	0.25	0.26	0.18	0.45	0.55	0.15	0.24	0.29	0.34	0.35
IMDB2017	0.60	0.58	0.26	0.34	0.20	0.44	0.58	0.22	0.33	0.31	0.41	0.42
metacritic2017	0.40	0.37	0.28	0.26	0.32	0.27	0.42	0.21	0.28	0.15	0.31	0.67

C1. To omit some lists

	Criteria(1) Average Correlation		Criteria(2) remarkable Correlation	Number of lists that passes criteria
Strong Independent	Under 0.08	OR	All correlations are under 0.3	45 / 131 lists
Independent	Under 0.1	OR	All correlations are under 0.4	68 / 131 lists
Weak independent	Under 0.12	OR	All correlations are under 0.5	97 / 131 lists
Include Border line case	Under 0.14	OR	All correlations are under 0.6	118/131 lists

- To search lists that have Independent review criteria, we checked correlation in each lists.(n=131)

By language

	English (n=101)	Japanese (n=20)
Strong Independent (n=41)	24%	85%
Independent (n=60)	40%	100%
Weak Independent (n=87)	66%	100%
Borderline (n=108)	87%	100%
All (n=121)	100%	100%

By category

	Past-Authoritative ex:Exhibition (n=76)	Past-Collective ex:Game mania vote lists (n=28)	Present-Authoritative ex:awards (n=11)	Present-Collective ex:sales (n=14)
Strong Independent (n=45)	29%	32%	73%	50%
Independent (n=66)	47%	43%	100%	50%
Weak Independent (n=95)	78%	57%	100%	64%
Borderline (n=116)	92%	86%	100%	79%
All (n=129)	100%	100%	100%	100%

The independent tendency in game lists.

- Japanese game lists are more independent than English game lists.
- Contemporary game lists are more independent than retrospective game lists.
- Old game lists are more independent than recent game lists.
(probably this result depend on sampling problem)

The depended game lists

(correlation average over 0.14
,and There are over 0.6 correlate other list)

X1UP.com2011

gamesradar.com2013

metacritic2017

Medium2015

GameRankings.com2017

BroBible.com2014

IGDB.com2017

IMDB2017

The.Top.Tens2017

Easy.Allies.Forums2016

Empire.Magazine2014

Favslit2017

Ranker.com2017

These lists have similar lists to each other.
Probably or obviously, these lists aggregate
other game lists.

We used “Weak Independent” level game lists

- We have to omit dependent list.
- But, It is inevitable for these game lists that similarities occur with other lists. So, Using “Strong independent” standard is not inappropriate. “independent” or “weak Independent” are better.
- We thought that it would be preferable to have a large amount of data in a range that is not inappropriate. Therefore, “weak Independent” level was used.

C2. Made New Categories

- Made Category :
 - “Zero referred videogames in English or Japanese ”(Inoue, Fukuda,2016)
 - Categorical data is not comparable.
- Index Score :
 - Comparable Scale
 - But, These score covers only top ranking titles. Major title comparability improved.

New Categories: Bias Possibility(1)

- Language Bias Possibility
 - EN: Japanese Index score = 0, and English Index score > 0
 - (en) : Japanese Index score < 3, and English Index score > 25
 - JP : English Index score = 0, and Japanese Index score > 0
 - (jp) : English Index score < 3, and Japan Index score > 25

JP : Very High / EN: Very Low

Title	Platform	Release	Language	EN Index	JP Index
Doragon Quest 3 Soshite Densetsu e	FC	1988	JP	0	86.29442
Doragon Quest 2 Akuryou no Kamigai	FC	1987	JP	0	81.21827
Dragon Quest IX: Sentinels of the Stars	DS	2009	(jp)	1.14288	79.69543
Dragon Quest IV Michibikareishi Monogatari	FC	1990	JP	0	76.14213
Gravity Rush	VITA	2012	JP	0	74.61929
Dragon Quest 5 Tenku no Hanayome to Kowareta Monogatari	SFC	1992	(jp)	2.28576	71.06599
Link no Bouken	FC	1987	JP	0	65.98985
Makai Toshi Sa Ga	GB	1989	JP	0	65.98985
Youkai Watch 2 Ganso	3DS	2014	JP	0	65.98985
Shin Megami Tensei	SFC	1992	JP	0	60.91371
NARUTO Narutimetto Storm	PS3	2009	JP	0	59.39086
Dairanto Smash Brothers X	Wii	2008	(jp)	2.28576	55.83756
Street Fighter 2 Turbo Hyper Fighting	SFC	1993	(jp)	2.28576	55.83756
AZEL Panzer Dragoon RPG	SS	1998	(jp)	2.28576	55.83756
Y's 1 and 2	PCE	1989	(jp)	2.21719	55.83756

EN : Very High / JP: Very Low

Title	Platform	Release	Language	EN Index	JP Index
BIOSHOCK	MICROS	2008	EN	70.7359	0
BioShock	MODER	2007	EN	68.4501	0
Mass Effect 2	PLAYST	2010??	EN	66.6789	0
Portal	PC	2007	EN	64.9931	0
The Last of Us	PS4	2014	EN	62.4599	0
Fallout 3	XBOX 360	2008	EN	59.3155	0
Super metroid		1994	EN	58.6884	0
PORTAL 2	PS3	2012	EN	57.0503	0
Star Wars Knights of the Old Republic	XBOX	2004?	EN	56.5129	0
クロノ・トリガー	DS	2008	EN	55.5127	0
Fallout 3	PS3	2009	EN	54.744	0
Fallout 3	MODER	2009	EN	54.744	0
Deus Ex	PC	2000?	EN	54.0443	0
Super Mario Bros.	GB	2000	EN	49.6099	0
The Sims	PC	2000	EN	46.9432	0

New Categories: Bias Possibility(2)

- Time-Order Bias Possibility
 - B2010: After 2011 Index score = 0, and Before 2010 Index score > 0
 - A2011 : Before 2010 Index score = 0, and After 2011 Index score > 0, and released before 2010.

Getting popularity after 2011

Title	Platform	Release Year	Time-Category	Before
Red Dead Redemption	PS3	2010	A2011	0
Red Dead Redemption	XB360	2010	A2011	0
Link no Bouken	FC	1987	A2011	0
Makai Toshi Sa Ga	GB	1989	A2011	0
Mine Craft	MODER	2009	A2011	0
NARUTO Narutimetto Storm	PS3	2009	A2011	0
Minecraft	PC	2009	A2011	0
Gyakuten Saiban 3	GBA	2004	A2011	0
Onimusha	PS2	2001	A2011	0
Monster Hunter 2	PS2	2006	A2011	0
Onimusha 3	PS2	2004	A2011	0
DEAD OR ALIVE 3	XB	2002	A2011	0
Panzer Dragoon Zwei	SS	1996	A2011	0
Radiata Stories	PS2	2005	A2011	0
PHANTASY STAR ONLINE EPISODE	XB	2003	A2011	0
Fushigi no Dungeon 2 Furai no Shirer	SFC	1995	A2011	0

Other use case example

Low-Present Authoritative

These games couldn't get awards.

But, Important(?) games.

Title	Platform	Release	PastCollecti	PastAuthori	PresentColl	PresentAutl
Tetris	PC	1984	65.2	87.45099597	87.45099597	0
Donkey Kong	AC	1981	40.1	68.49097725	68.49097725	0
Chrono Trigger	SFC	1995	78.6	53.30894399	53.30894399	0
SUPER MARIO WORLD	SFC	1990	65.9	68.38901358	68.38901358	0
doom	PC	1993	54.7	80.33012785	80.33012785	0
BIOSHOCK	MICROS	2008	54.2	65.83095602	65.83095602	0
Pac Man	AC	1980	38.5	55.90619824	55.90619824	0
BioShock	MODER	2007	54.2	62.69260714	62.69260714	0
スーパーマリオワールド		1990	65.9	52.69726918	52.69726918	0
Space Invader	AC	1978	31.4	59.89190132	59.89190132	0
Super Mario World	GBA	2001	59.1	58.97396694	58.97396694	0
Super metroid		1994	61.1	52.06202408	52.06202408	0
Minecraft	PC	2009	28.7	56.17326112	56.17326112	0
クロノ・トリガー	DS	2008	58	44.64710109	44.64710109	0
SUPER MARIO KART	SFC	1992	27.1	55.36047424	55.36047424	0
Fallout 3	MODER	2009	49.8	44.90977247	44.90977247	0
PACMAN	PC	1981	31.6	46.4011516	46.4011516	0

Low Past-Authoritative

Video game history book or Museum Exhibition
don't picked up.

But, Important(?) games.

Title	Platform	Release	PastCollecti	PastAuthori	PresentColl	PresentAutl
NARUTO Narutimetto Storm	PS3	2009	0	0	0	78
Dairanto Smash Brothers X	Wii	2008	6.9	0	0	73.33333333
Gyakuten Saiban 3	GBA	2004	0	0	0	73.33333333
BIOHAZARD CODE Veronica	DC	2000	6.9	0	0	66.66666667
Tales of Zestiria	PS3	2015	0	0	0	68
HITMAN ABSOLUTION	PS3	2013	0	0	0	66.66666667
KINGDOM HEARTS Birth by Sleep	PSP	2010	0	0	0	66.66666667
Hoshi no Kirby Triple Deluxe	3DS	2014	0	0	0	66.66666667
Kingdom Hearts 358 over 2 Days	DS	2009	0	0	0	66.66666667
Sega Rally 2	DC	1999	0	0	0	66.66666667
Ikaruga	GC	2003	0	0	0	66.66666667
大逆転裁判-成歩堂龍之介の冒険-	3DS	2015	0	0	0	66.66666667
Shinrei Camera Tsuiteru Techo	3DS	2012	0	0	0	66.66666667
Ore no Shikabane o Koete Yuke 2	VITA	2014	0	0	0	66.66666667
Madden NFL Super Bowl 2001	PS2	2001	0	0	0	66.66666667
Fire Emblem Monsho no Nazo	SFC	1994	0	0	0	66.66666667
Fire Emblem if Resplendent Oshichi	3DS	2015	0	0	0	66.66666667

Low Past-collective

“All time best 100” don't picked up.
But, Important(?) games.

Title	Platform	Release	PastCollective	PastAuthority	PresentColl	PresentAuth
Gravity Rush	VITA	2012	0	3.13834888	3.13834888	91.33333333
F-ZERO	SFC	1990	0	22.407811	22.407811	60
Youkai Watch 2 Ganso	3DS	2014	0	3.13834888	3.13834888	80
Link no Bouken	FC	1987	0	6.27669776	6.27669776	73.33333333
Makai Toshi Sa Ga	GB	1989	0	6.27669776	6.27669776	73.33333333
Virtua Fighter	SS	1994	0	19.77159794	19.77159794	53.33333333
NARUTO Narutimetto Storm	PS3	2009	0	0	0	78
Y's 1 and 2	PCE	1989	0	6.182547293	6.182547293	66.66666667
TEKKEN 2	PS/AC	1996	0	5.900095894	5.900095894	66.66666667
Virtua Fighter 4	PS2	2002	0	7.155435446	7.155435446	66.66666667
Gyakuten Saiban 3	GBA	2004	0	0	0	73.33333333
Tales of Zestiria	PS3	2015	0	0	0	68
HITMAN ABSOLUTION	PS3	2013	0	0	0	66.66666667
KINGDOM HEARTS Birth by Sleep	PSP	2010	0	0	0	66.66666667
Hoshi no Kirby Triple Deluxe	3DS	2014	0	0	0	66.66666667
Kingdom Hearts 358 over 2 Days	DS	2009	0	0	0	66.66666667
Castlevania	PS	1999	0	0	0	66.66666667

C3. Refine scoring logic

- We adjusted the average point to become 1 point.
- Adjusted not to be a high score only by the influence of one source.
- Score(like Max 100 point review)
 - Calculate : $(\text{Target Point} / \text{Average point})/2+0.5$
- Sales Data Scoring logic
 1. Convert to descending order of ranking(ex: 1st rank in 100games = 100 points, 2nd rank =99 points)
 2. Calculate $(\text{Target Point} / \text{Average point})/2+0.5$

C4. Refine Making Index score

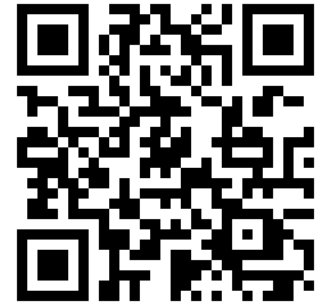
1. We summed up together the points that matched the conditions.
2. These scores are not comparable. Therefore, we convert it to 100 points max scale.
 - Target Points * (100 / max points)
 - ✖ Most scores are not normal distribution. In this data, most of scores are pareto distribution. Therefore, I didn't use normalization method like the deviation value.

C5.Prepare to check the validity to compare EFA score result.

- In case of making scale in psychology, we use exploratory factor analysis(EFA) to leave items with high distinctive.
- Already I have EFA results(ML1-ML7)
- I'm planning to use EFA results and these index score to compare validity.

Summary

- We published data on web.
- Please cooperate to answer the questionnaire
- We improved the data to make various game review bias visible.
 - Basically, this data should be understood as a kind of data mining result, not traditional statistics.
- We showed a use case.



Next Step

- A) Making more valid Index
 1. To Check which scale are effective and non-effective for video game players.
 2. In case the non-effective scale is important, to try refining the scale,
- B) More data quantity and to update data
 - Old game lists are less than recent game lists.
- C) More data aggregation accuracy
 - Work level DB
 - Name Identification problems
 - We can aggregate Korean, German, French game lists... and so on.
- D) More Statistical Approach
 - Inspecting causality



**Thank you for
listening**

mail : akitoinoue.ac [at] gmail.com

**(Please talk slowly,
when you ask me a question.)**