Player Personality Profile Grid (PPP Grid)

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LOADING

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LUDOSCIENCE

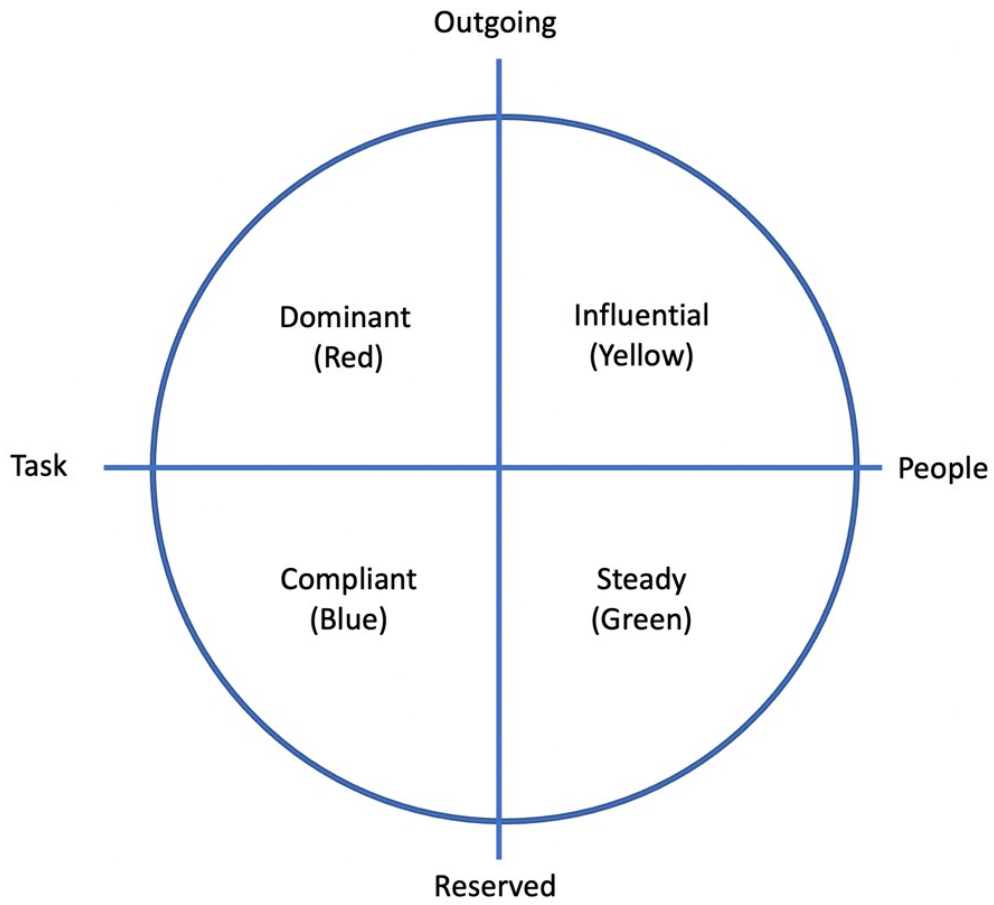
IMMERSIVE FACTORY

DiSC® Model from William Moulton Marston (1928)

- **"D" for "Dominance"**: Extroverted and task-oriented, such people would be considered "energetic" and "competitive;
- **"i" for "Influence"**: extroverted and people-oriented, such people would be "communicative" and "passionate";
- **"S" for "Steadiness"**: introverted and people-oriented, such people would be "empathetic" and "caring".
- **"C" for "Conscientiousness"**: introverted and task-oriented, these people would be "conscientious" and "careful".

Sugerman, J.: Using the DiSC® model to improve communication effectiveness, Guilsborough: Emerald Group Publishing Limited Industrial and commercial training, 2009-04-17, Vol.41 (3), pp.151-154 (2009).

DiSC® Model from William Moulton Marston (1928)



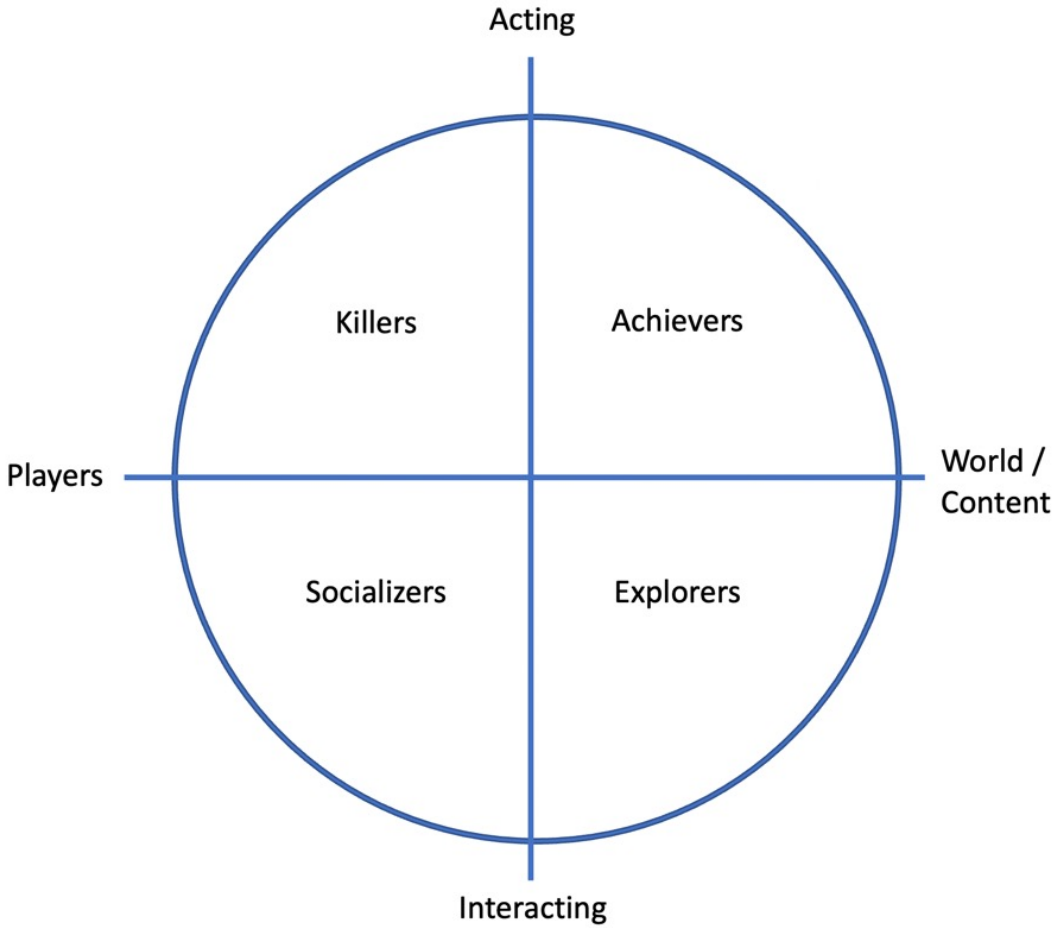
Profiles based on the DiSC model as represented by Profile 4 (ICAUDA Company).

Richard Bartle's player model (2005)

- **"Achiever"**: would play to achieve the best performance or to collect all the items in the game;
- **"Explorers"**: would try to explore the universe offered by the game or even its function;
- **"Socializers"**: would seek contact with other players
- **"Killers"**: would aim to defeat their opponents"

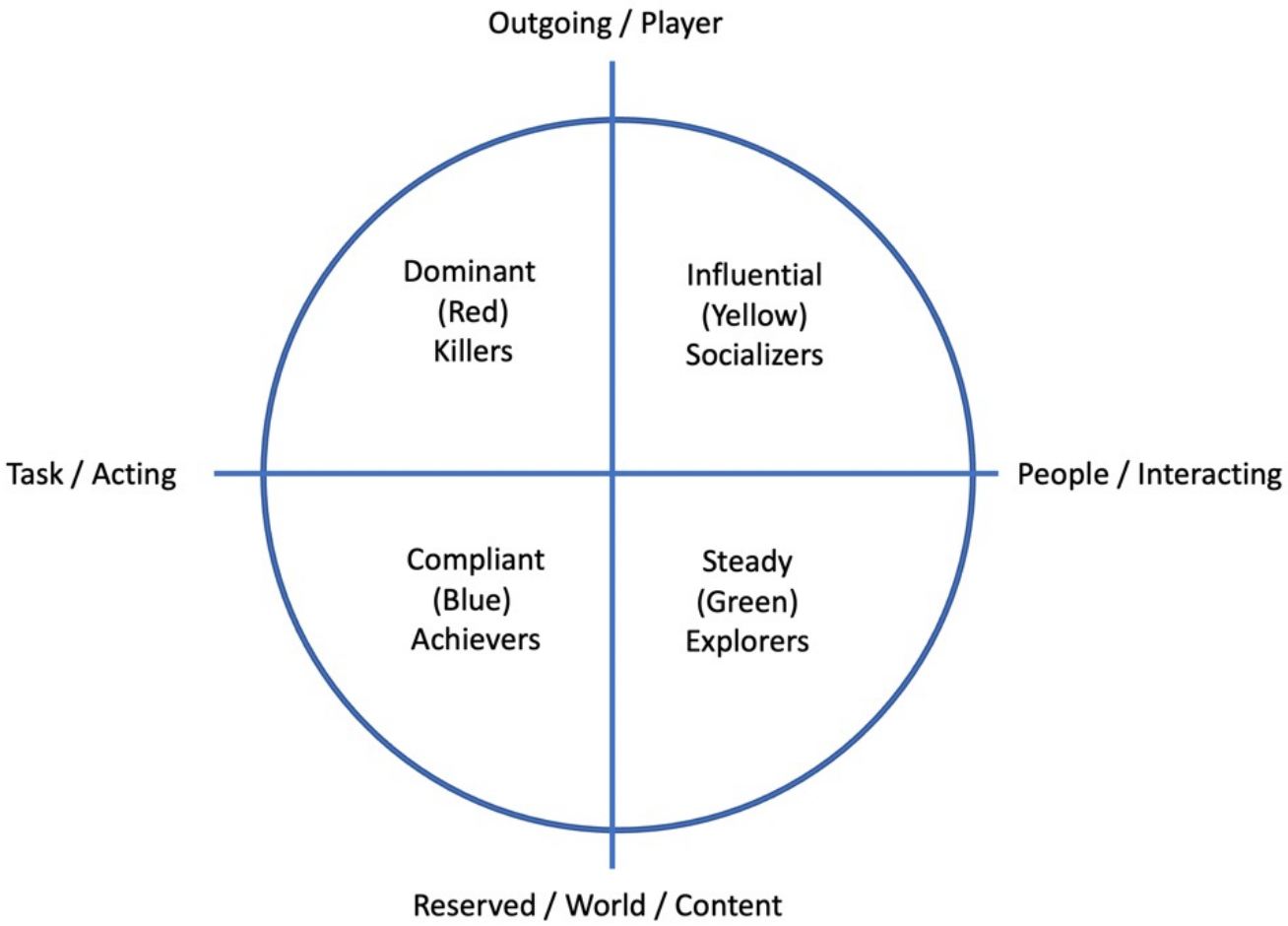
Bartle, R.: Hearts, Clubs, Diamonds, Spades: Players Who Suit MUDs,
in Saler, K., Zimmerman, E.: The Game Design Reader: A Rules of Play Anthology, The MIT Press, pp.755-785 (2005).

Richard Bartle's player model (2005)



Player profiles based on Richard Bartle's player profile model.

Mapping DiSC® Model to Bartle's player profiles



Mapping DiSC® Model to Bartle's player profiles

This combination suggests that:

- it would be possible to deduce a person's DiSC profile from a player profile and vice versa.
- we could also take into consideration the poles of the different axes to deduce both the DiSC profile and the player profile of a person.

These are hypotheses that we wish to explore as they would provide us with a simple and operational model for identifying learner-player profiles.

Plan of the study

1- Methodology,

2- Statistical processing of a questionnaire based on 1126 responses,

3- Grid of results.

Methodology

In order to test the hypothesis that DiSC and Bartle player profiles match, we submitted a Google Form questionnaire to Internet users to complete anonymously. It consists of 8 questions.

Survey

Q1 - Do you feel more introverted or extroverted (on a scale of 1 to 4)?

Q2 - Do you prioritize tasks and goals or people (on a scale of 1 to 4)?

Q3 - Check the profile that fits you best (one choice):

a. Red: I like challenges, taking the lead. My motto: What's done is done!
b. Yellow: I enjoy communicating with others. I am often described as creative and bright!
c. Green: I like to listen to others and am empathetic. I need stability.
d. Blue: I like rigor and doing things by the book. I like to weigh my words.

Survey

Q4 - As a player, I tend to be (one possible answer):

a. Achiever: I like to finish all the levels in a game, do all the available quests, have 3 stars everywhere!

b. Explorer: I like to see how a game works, to discover its universe, to find bugs that allow me to win differently...

c. Socializer: I like to interact with other players during a game. Winning is secondary.

d. Killer: I like to win, but usually against opponents. If I can eliminate them, that's even better!

Q5 - (Not used)

Survey

Q6 - I have...

a. Less than 10 years old
b. Between 11 and 17 years old
c. Between 18 and 24 years of age
d. Between 25 and 34 years of age
e. Between 35 and 44 years of age
f. Between 45 and 54 years of age
g. Aged 55 to 64
h. Over 64 years old
j. Don't want to say...

Q7 - I am...

a. A woman
b. A man
c. Not specified or prefer not to say...

Survey

Q8 - I play...

a. More than 10 hours per week
b. Between 5 and 10 hours per week
c. Between 2 and 4 hours per week
d. Between 0 and 1 hour per week
e. I do not want to say...

Q1 and Q2 Explanations

Questions Q1 and Q2 propose a scale of 4 possible answers, thus avoiding a median choice. The idea is to use the answers to questions Q1 and Q2 to create a "constructed profile" called "Qc". This concatenates the DiSC model and Bartle's player profiles as follows:

If A>2+B<3 then Qc = Dominant / Red / Killer;
If A>2+B>2 then Qc = Influencer / Yellow / Socializer;
If A<3+B>2 then Qc = Stable / Green / Explorer;
If A<3+B<3 then Qc = Conscientious / Blue / Gatherer.

Knowing that:
If A>2, the subject declares to be an Extrovert;
If A<3, the subject declares to be an Introvert;
For B>2, the subject declares to be oriented towards people;
For B<3, the subject declares to be task oriented.

Q3 and Q4 Explanations

Questions Q3 and Q4 correspond to self-positioning suggestions to directly select one's DiSC and player profile according to Bartle's model. To test our hypotheses, we want to see if the constructed profile Qc can match the answers to Q3 and Q4.

Data

	Influential	Dominant	Steady	Compliant	Total
Yellow	192	46	63	14	315
Red	63	58	21	52	194
Green	87	22	163	105	377
Blue	33	47	54	106	240
Total	375	173	301	277	1126

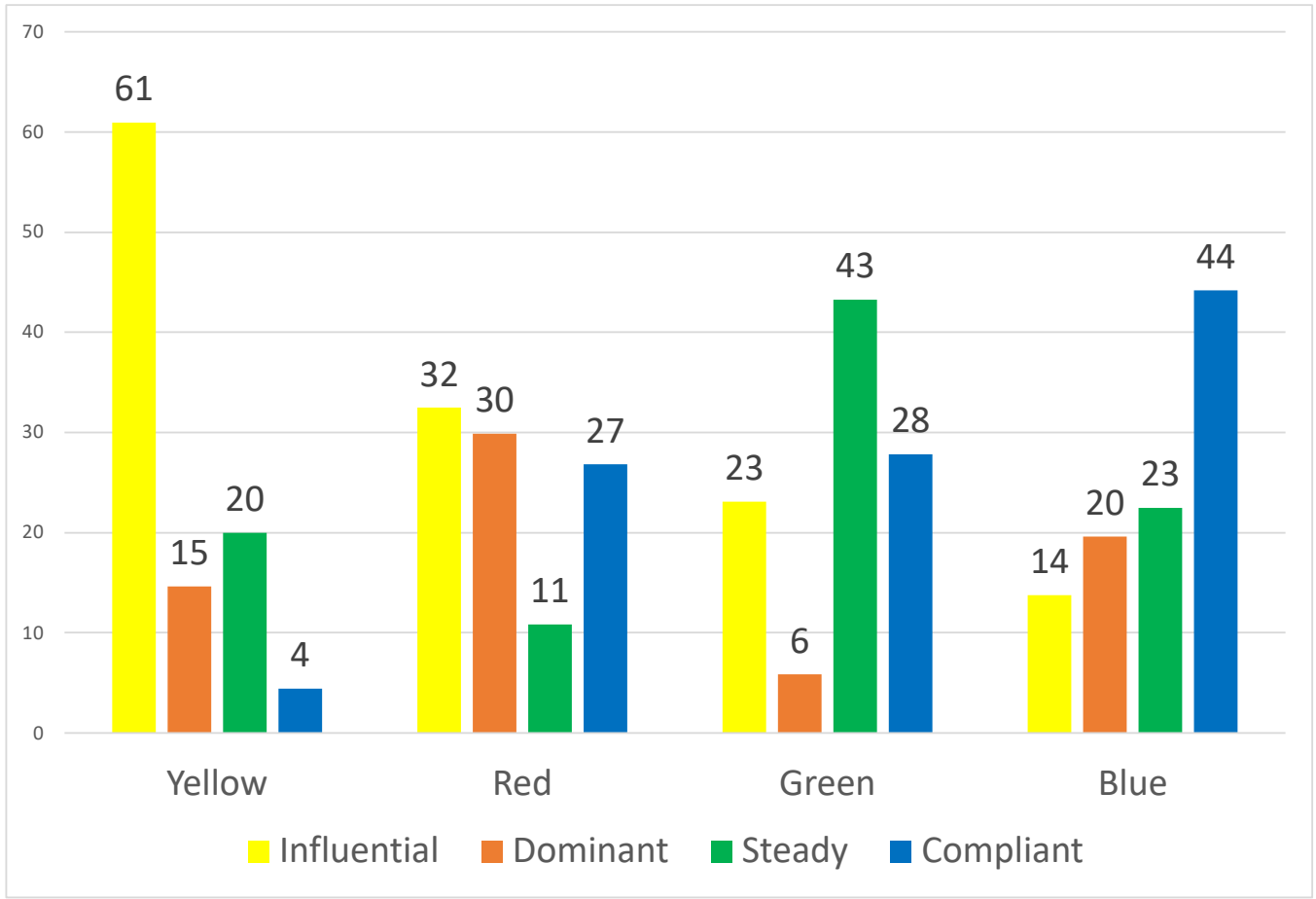
Cross-reference of DiSC self-positioning (Q3) and constructed profile (Qc)

Results

	Influential	Dominant	Steady	Compliant	Total
Yellow	23	0	2	16	41
Red	0	8	6	0	14
Green	4	7	12	2	23
Blue	9	1	1	12	22
Total	35	16	20	29	100
Khi2=319					

Percentage contribution to Chi-square (in yellow attraction) over Q3/Qc

Results



Percentage contribution to Chi-square (in yellow/gray attraction) over Q3/Qc

Data

	Influential	Dominant	Steady	Compliant	Total
Socializer	126	20	79	21	246
Killer	36	27	25	27	115
Explorer	138	60	124	121	443
Achiever	75	66	73	108	322
Total	375	173	301	277	1126

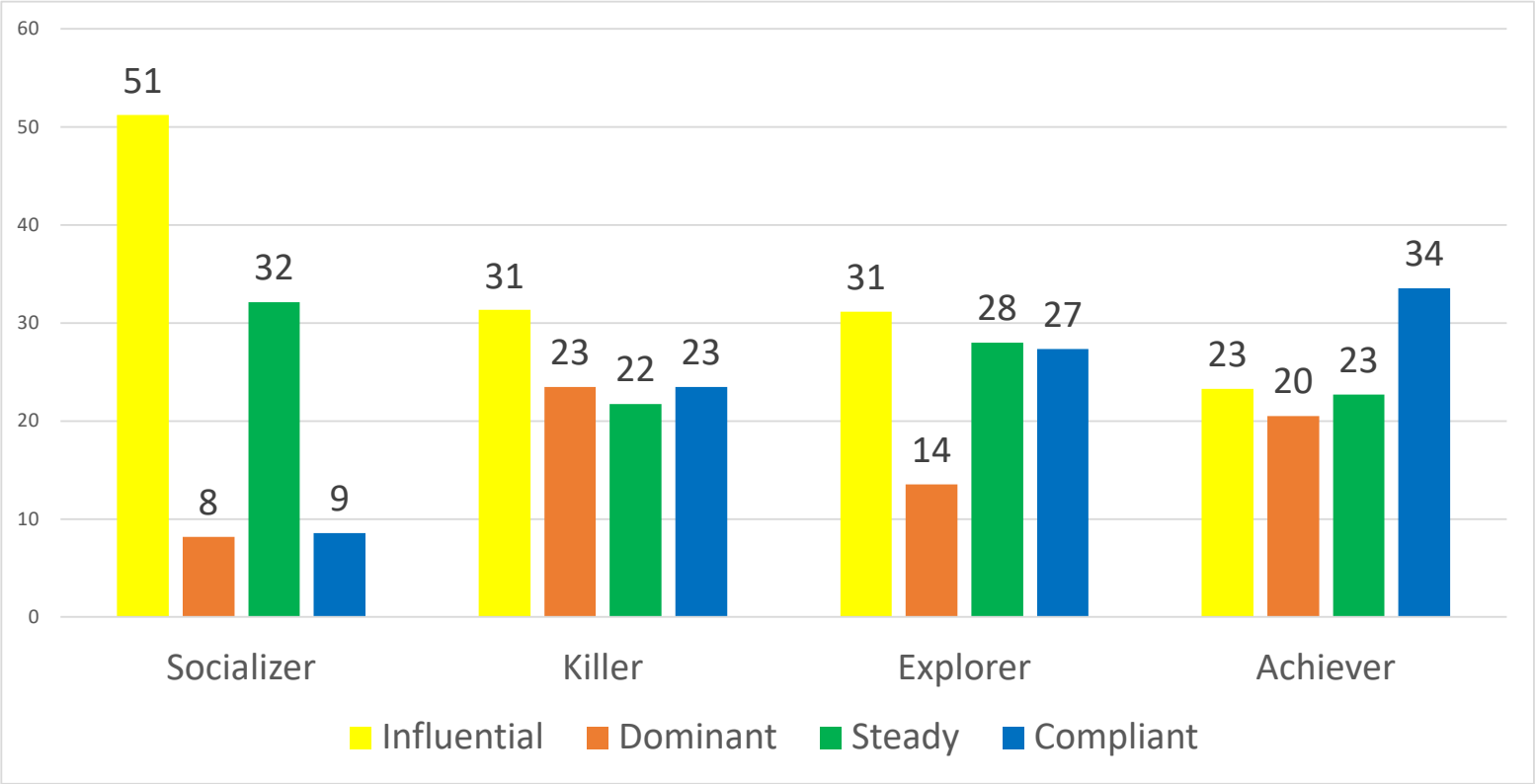
Cross-reference of the self-positioning Bartle's player profile (Q4) and the constructed profile (Qc)

Results

	Influential	Dominant	Steady	Compliant	Total
Socializer	23	9	3	26	62
Killer	0	5	1	0	6
Explorer	1	1	0	1	3
Achiever	10	6	2	11	28
Total	35	20	6	39	100
Khi2=319					

Percentage contribution to Chi-square (in yellow attraction) over Q3/Qc

Results



Statistical profiles of Bartle's self-positioning profiles (Q4) according to the constructed modalities Qc.

Results

We get these results:

"Yellow" / "Influential": 23%	[A1]
"Red" / "Dominant": 8%	[B1]
"Green" / "Steady": 12%	[C1]
"Blue" / "Compliant": 12%	[D1]

"Socializer" / "Influential": 24%	[A2]
"Killer" / "Dominant": 5%	[B2]
"Explorer" / "Steady": 0%	[C2]
"Achiever" / "Compliant": 10%	[D2]

"Socializer" / "Yellow": 12%	[A3]
"Killer" / "Red": 40%	[B3]
"Explorer" / "Green": 0%	[C3]
"Gatherer" / "Blue": 10%	[D3]

Results

The results obtained consolidate the relationships between the modalities of the two selves-positioning: ("Yellow", "Red", "Green", "Blue") and ("Socializer", "Killer", "Explorer", "Achiever").

- "Yellow" / "socializer" (see relations [A1] and [A2] => [A3]),
- “Red" / "Killer" (see relations [B1] and [B2] => [B3]),
- “Green" / "Explorer" (see relations [C1] and [C2] => [C3]),
- “Blue" / "Gatherer" (see relations [D1] and [D2] => [D3]).

"Yellow" / "Influential": 23% [A1]
"Socializer" / "Influential": 24% [A2]
"Socializer" / "Yellow": 12% [A3]

"Red" / "Dominant": 8% [B1]
"Killer" / "Dominant": 5% [B2]
"Killer" / "Red": 40% [B3]

"Green" / "Steady": 12% [C1]
"Explorer" / "Steady": 0% [C2]
"Explorer" / "Green": 0% [C3]

"Blue" / "Compliant": 12% [D1]
"Achiever" / "Compliant": 10% [D2]
"Gatherer" / "Blue": 10% [D3]

Results

However, we did not find a significant relationship between "Explorer" and "Green".

"Green" / "Steady": 12%	[C1]
"Explorer" / "Steady": 0%	[C2]
"Explorer" / "Green": 0%	[C3]

Thus, our hypothesis seems to be confirmed for ¾ of the expected matches.

Playing a lot would allow for better self-positioning?

At this point, the "Green" and "Explorer" profiles do not match. In parallel, Qc and Q4 show the lowest agreement with 39%.

An explanatory hypothesis would be to consider the amount of time the subjects play per week (Q8). Perhaps playing a lot would allow for better self-positioning?

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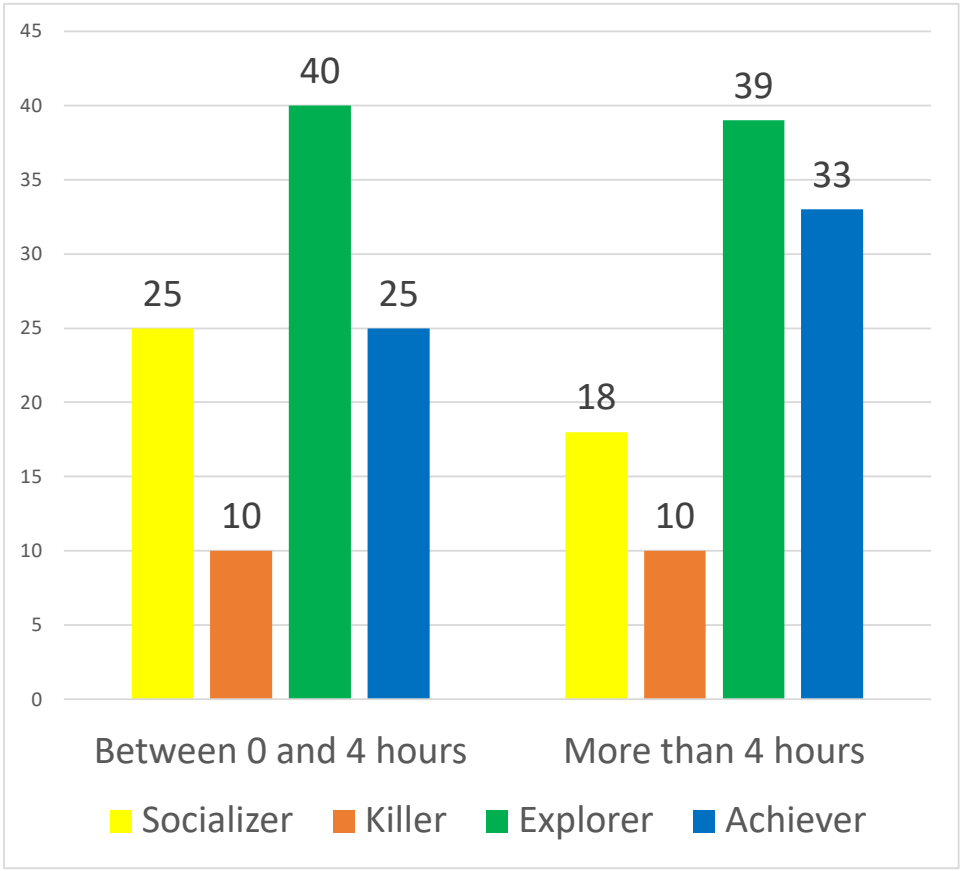
Playing a lot would allow for better self-positioning?

The duration of the subjects' playing is:

- Between 0 and 1 hour per week: 340 (30%)
- Between 2 and 4 hours a week: 317 (28%)
- Between 5 and 10 hours per week: 228 (20.5%)
- More than 10 hours per week 212 (19%)
- Don't want/mistake: 29 (2.5%)

Playing a lot would allow for better self-positioning?



Statistical profiles of self-positioning (Q4) according to the "pJ" and "gJ" classes

Playing a lot would allow for better self-positioning?

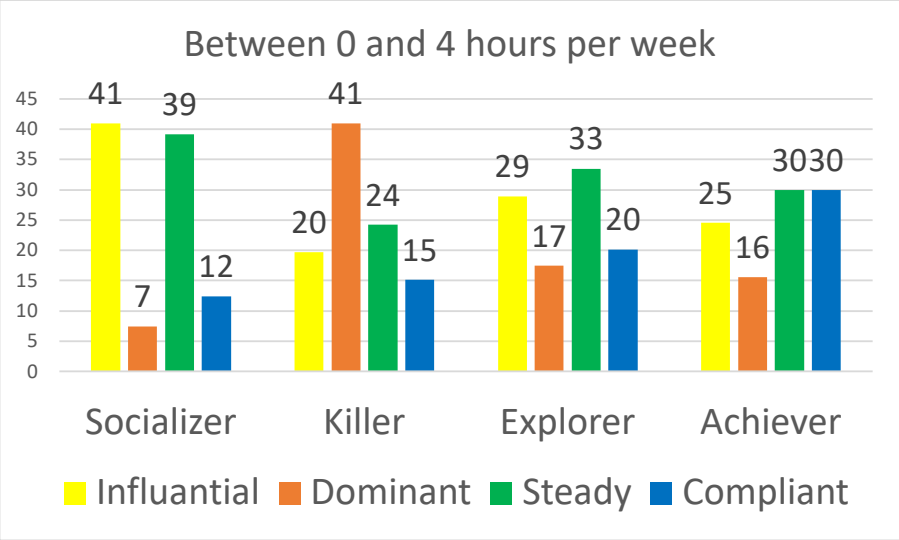


Fig. 8: Statistical profiles of self-positioning (Q4) as a function of the constructed modalities (Qc) ("gJ" class)

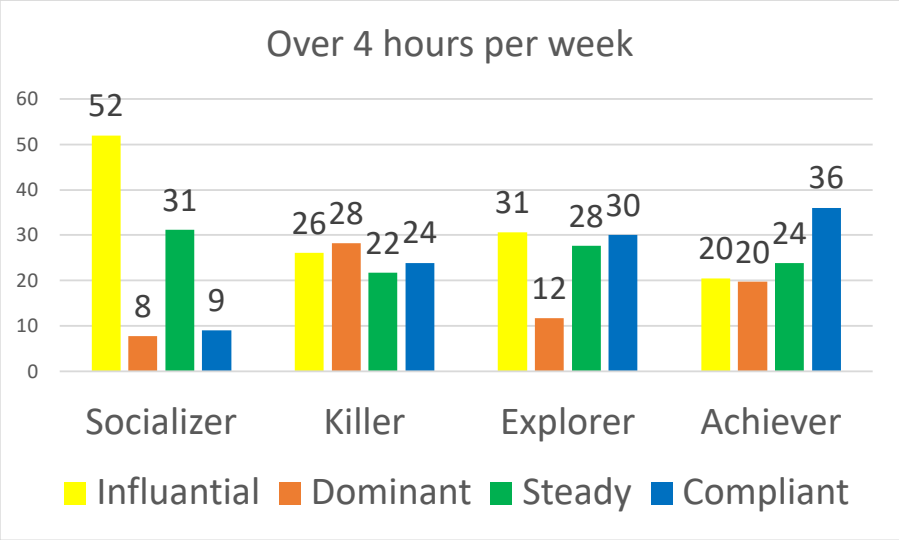


Fig. 9: Statistical profiles of self-positioning (Q4) according to the constructed modalities (Qc) ("gJ" class)

Playing a lot would allow for better self-positioning?

The Fig. 8 & Fig. 9 show us that regular or irregular playing influences the self-positioning of subjects.

Indeed, in Fig. 8, if we take into account the highest rate for each profile constructed (Qc) only, we identify the following set of modality pairs:

- "Influential" and "Socializer" (41%)
- “Dominant" and "Killer" (41%)
- “Compliant" and "Achiever" (30%)

However, the "Steady" and "Explorer" pairing is not verified.

Consider the age of subjects?

The age ranges are:

- Under 18 years old: 5 (0.5%)
- Between 18 and 24 years old: 178 (16%)
- Between 25 and 34 years old: 315 (28%)
- Between 35 and 44 years old: 324 (29%)
- Between 45 and 54 years old: 230 (20%)
- Over 55 years old: 68 (6%)
- Don't want to say / mistakes 6 (0.5%)

Consider the age of subjects?

	Socializer	Killer	Explorer	Achiever	Total
Between 18 and 24 years old	8	44	0	2	54
Between 25 and 34 years old	2	0	1	8	11
Between 35 and 44 years old	0	2	4	2	7
Between 45 and 54 years old	8	4	2	0	14
Over 54 years old	7	5	0	2	13
Total	25	56	6	13	100
Khi2=64					

Percentage Contribution to Chi-square (yellow/gray attraction) of Q4/Age Crossover

Consider the age of subjects?

From this, we can derive the following matches, which account for 71% of the total in our panel:

- Between 18 and 24 years old 44% for the "Killer" profile
- Between 25 and 34 years old 8% for the "Achiever" profile
- Between 35 and 44 years old 4% for the "Explorer" profile
- Over 44 years old 15% for the "Socializer" profile

Consider the gender of subjects?

The gender of subjects are:

- Women: 582 (51.5%)
- Men: 524 (46.5%)
- Uncertain or unwilling to answer: 20 (2%)
- Total: 1126

Consider the age of subjects?

	Socializer	Killer	Explorer	Achiever	Total
Women	24	13	9	2	47
Men	26	15	10	2	53
Total	50	28	18	4	100
Khi2=12					

Percentage Contribution to Chi-square (yellow/gray attraction) of Q4/Age Crossover

Consider the gender of subjects?

Gender differences are significant in all 4 player profiles:

- Women are more "Socializers" and "Achievers": weight 47%
- Men are more "Killers" and "Explorers": weight 53%

Consider the age and gender of subjects?

Age / Gender	Women	Men
18 to 24 years	Achiever	Killer
25 to 34 yeas	Achiever	Killer / Explorer
35 to 44 years	Achiever / Socializer	Explorer
Over 44 years old	Socializer	Explorer

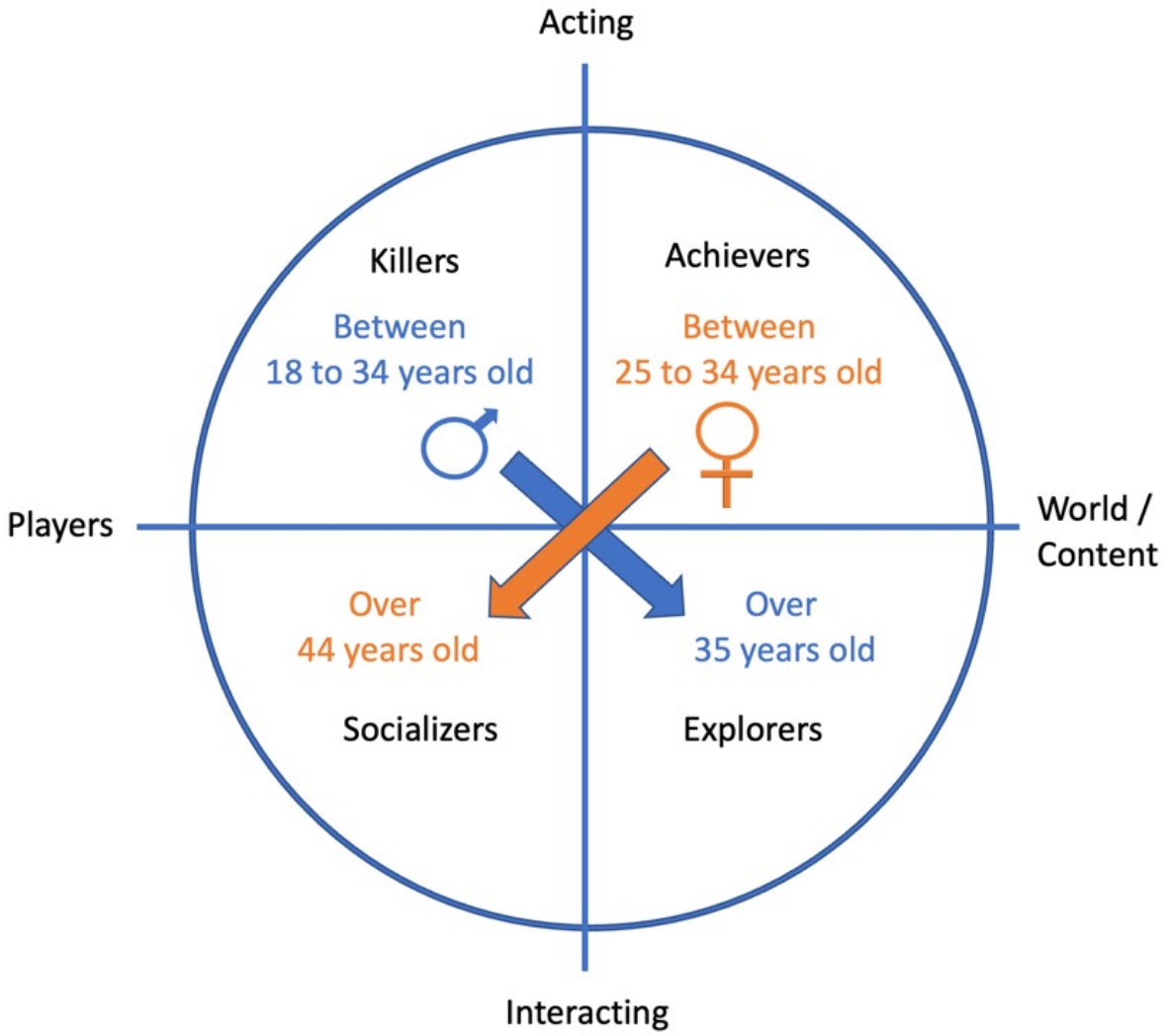
Table 13: Self-positioning of the player profiles we are most likely to identify in terms of age (Q6) and gender (Q7)

Consider the age and gender of subjects?

By crossing age and gender, we found out that a majority of:

- Women will tend to move from an "Achiever" profile to a "socializer" profile as they age.
- Men will tend to move from a "Killer" profile to an "Explorer" profile as they age.

Results



Evolution of player profiles by gender and age

Discussions

Future work should test this hypothesis and look for factors that might explain this phenomenon. In this regard, we believe that the writings of Srivastava and al. (2003) are particularly illuminating.

Indeed, their work shows that women and men can change their personality over time, including during adulthood.

Discussions

In the meantime, we hypothesize that Table 13 captures the self-positioning of player profiles from Bartle's classification that we are most likely to encounter when cross-referencing individuals' age and gender.

Age / Gender	Women	Men
18 to 24 years	Achiever	Killer
25 to 34 yeas	Achiever	Killer / Explorer
35 to 44 years	Achiever / Socializer	Explorer
Over 44 years old	Socializer	Explorer

Evolution of player profiles by gender and age

PPP GRID

By juxtaposing informations from Tables 12 &13 and information from Fig. 4 to 10, we construct the "Player Personality Profile Grid" (PPP Grid).

PPP GRID

Player Personality Profile Grid (PPP Grid) – WOMAN				
	Less than 4 hours weekly playtime (pJ)			
DiSC / AGE	**18 to 24 years old**	**25 to 34 years old**	**35 to 44 years old**	**Over 44 years old**
Influential / Yellow	Socializer	Socializer	Socializer	Socializer
Dominant / Red	Socializer or Achiever	Socializer or Achiever	Socializer	Socializer
Compliant / Blue	Achiever	Achiever	Socializer or Achiever	Socializer
Steady / Green	Socializer or Achiever	Socializer or Achiever	Socializer	Socializer
	More than hours weekly playtime (pJ)			
DiSC / AGE	**18 to 24 years old**	**25 to 34 years old**	**35 to 44 years old**	**Over 44 years old**
Influential / Yellow	Socializer	Socializer	Socializer	Socializer
Dominant / Red	Socializer or Achiever	Socializer or Achiever	Socializer or Achiever	Socializer
Compliant / Blue	Achiever	Achiever	Achiever	Achiever
Steady / Green	Socializer or Achiever	Socializer ou Achiever	Achiever	Achiever

PPP GRID

Player Personality Profile Grid (PPP Grid) – MAN				
	Less than 4 hours weekly playtime (pJ)			
DiSC / AGE	18 to 24 years old	25 to 34 years old	35 to 44 years old	Over 44 years old
Influential / Yellow	Explorer or Achiever	Explorer or Socializer	Socializer	Socializer
Dominant / Red	Killer	Killer or Explorer	Explorer	Explorer
Compliant / Blue	Achiever	Achiever	Explorer or Achiever	Explorer or Achiever
Steady / Green	Explorer or Achiever	Explorer or Achiever	Explorer	Explorer
	More than hours weekly playtime (pJ)			
DiSC / AGE	18 to 24 years old	25 to 34 years old	35 to 44 years old	Over 44 years old
Influential / Yellow	Explorateur or Socializer	Explorateur or Socializer	Explorateur or Socializer	Explorateur or Socializer
Dominant / Red	Killer or Explorer	Killer or Explorer	Explorer	Explorer
Compliant / Blue	Achiever	Achiever	Explorer ou Achiever	Explorer or Achiever
Steady / Green	Explorer ou Achiever	Explorer ou Achiever	Explorer	Explorer

Future Work

Our PPP Grid model now needs to be tested by new experiments with new panels and associated with statistical calculations. In fact, some of the boxes are extrapolations that we have made based on our current results.

Future Work

If this is verified, it would be good to develop the PPP Grid with respect to more current models such as the Big Five and HEXAD to study if the transposability is effective.

Finally, in future work we would like to try to understand what factors may influence the self-positioning we have identified.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Thank You!