THE IMAPCT OF FITNESS INFLUENCES ON A SOCIAL MEDIA PLATORM ON EXERCISE INTENTION DURING THE COVID-19 PANDEMIC: THE ROLE OF PARASOCIAL RELATIONSHIPS

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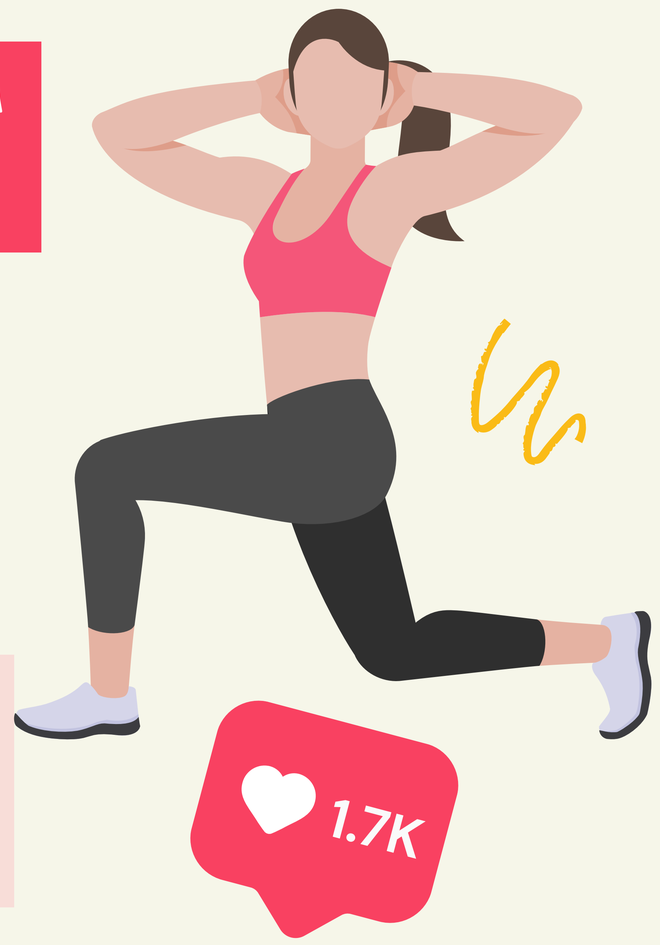


INTRODUCTION

This cross-sectional study focuses on parasocial relationships (PSRs) with fitness influencers during the pandemic and how an individual's viewership affected their fitness-related motivations. The researchers hypothesized that the content quality, and social, physical, and task attractiveness of an influencer positively influence PSRs, thus intensifying the viewer's motivation to exercise.

OBJECTIVE

The researchers wanted to understand the relationship between fitness influencers and their viewers and how this bond affected viewer's intentions to stay fit.

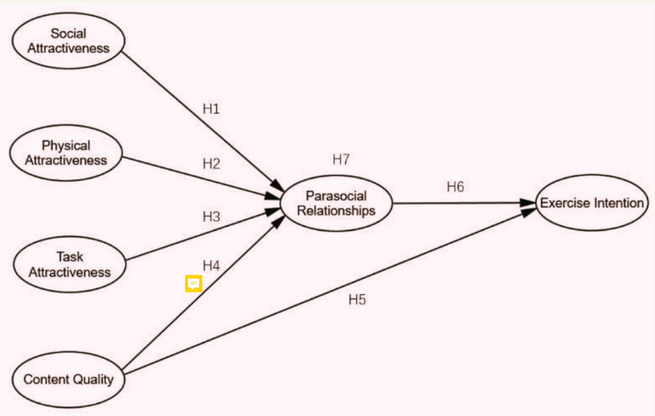


Figure 1. The research model.

METHODOLOGY

Questionnaires were sent to 416 young adults in China during the pandemic, asking them about their hourly and weekly exercise frequency. Fitness influencers' social, task, and physical attractiveness, content quality, and level of PSRs with the viewers were measured using different scales from previously accredited research articles.

RESULTS

The researchers found that an increase in social, task, and physical attractiveness made it easier for viewers to build PSRs with the influencers. They additionally discovered a strong positive correlation between PSRs and exercise intentions; the stronger the PSR, the stronger the viewer's intention to continue exercising.

DISCUSSION

While all attractiveness strengthened PSRs, researchers noted that physical attractiveness had the largest impact. Additionally, viewers were more likely to have stronger PSRs if they believed the content they were consuming was reliable and useful. Viewers were also motivated to continue exercising because of their feeling of belonging and intimacy when exercising with the influencer.

	Hypothesis	β	*t*-Value	*p*	Result
H1	Social attractiveness→Parasocial Relationships	0.182	2.929	0.003	Support
H2	Physical attractiveness→Parasocial Relationships	0.265	4.452	***	Support
H3	Task attractiveness→Parasocial Relationships	0.198	2.849	0.004	Support
H4	Content quality→Parasocial Relationships	0.209	3.091	0.002	Support
H5	Content quality→Excise Intention	0.257	4.820	***	Support
H6	Parasocial Relationships→Excise Intention	0.597	10.471	***	Support

CONCLUSION

The findings of this research support the positive association between the context of fitness influencers, PSRs, and viewers' intentions to exercise. The researchers advocate for viewers to continue their PSR by attempting to interact with the fitness influencers and maintaining a motivation to exercise at home during the pandemic.

Related literature
References can take up a lot of space, so cite only the key references used in the study.

HONGIK UNIVERSITY

RESEARCH SUMMARY: EFFECTIVENESS OF CELEBRITY ENDORSEMENT OF POLITICAL CANDIDATES

By: Nam-Hyun Um

Um, N.-H. (2018). Effectiveness of Celebrity Endorsement Of Political Candidates. Social Behavior and Personality, 46(10), 1585–1596. https://doi.org/10.2224/sbp.6757

CLINICAL PROBLEM

This study was done to find if the third person effect applies to politics. The third person effect is a common communication theory; the idea that people think media messages have a greater impact on others and not as large of an impact on their own beliefs. With this idea people are admitting that they see the media as the powerful force that it is.

CLINICAL TRIAL

Design: There were 283 participants included in this research with 33.6% being men and 66.5% women. The age range for the group was between 18 to 27 with the mean being 22.6 years old. Participants first consented to the research study and later took a survey. This survey included questions about real politicians and celebrities. The participants responded on a 7 point scale ranging 1 (strongly disagree) to 7 (strongly agree).

Intervention: The participants were presented with questions looking into the effectiveness of celebrity endorsements on others around them. This set of questions asked participants what their perspective was of how effective endorsements messages were. Included in these questions was some specifically looking at opinions on candidates and voter turnout. The survey also had parallel questions on if the participant themself would be affected by these endorsements.

RESULTS

Efficiency

The study showed there was a large difference between how the participants viewed the impact of endorsements on voting behavior of others. This proves that people believe that these endorsements have an impact on others more than themselves. This is found in both their views of others voting behavior and voting intention.

Safety

There was a significant difference found on how participants saw the possible impact on themselves and the perceived impact on others.

CONCLUSION

It was found that people thought they are less affected by political endorsements than they are. They also feel that other voters or people are more influenced by the endorsements. There was also some proof that participants were more judgmental of people who are influenced by celebrity endorsements.

Table 1. *Paired Sample t Test Results*

	Third Person Effect	
	Perceived impact on others	Perceived impact on self
Voting behavior	5.09 (1.18)	3.13* (.98)
Voting intention	5.01 (1.09)	2.88* (1.02)

Note. * $p < .001$. Standard deviation in parentheses.

Limitations

This study may have limitations because it is looking at only undergraduate voters which is not the current voting pool of the United States. The second limitation would be the use of fake articles but it was shown as believed by 93% of the participants. Lastly the use of real candidates could have an influence on participants due it underlying biases.

CLINICAL RHEUMATOLOGY

Comparative Pharmacology of S(+)-Ibuprofen and (RS)-Ibuprofen

A.M. Evans DOI: https://doi.org/10.1007/BF03342662

Chirality of Ibuprofen

Ibuprofen is a non-steroidal anti-inflammatory drug (NSAID) that is orally taken to decrease pain and discomfort. Its mechanism of action blocks the cyclooxygenase (COX) enzyme which catalyzes the production of prostaglandins. Prostaglandins are responsible for inflammation and pain once arachidonic acid (the substrate) binds to the COX enzyme. Ibuprofen is commercially sold as a racemic mixture (50% of each enantiomer), composed of the R and S-enantiomers. These enantiomers are structures that are non-superimposable mirror images of each other. Researcher A.M. Evans compares the inhibitory effects of both pure enantiomers and the racemate.

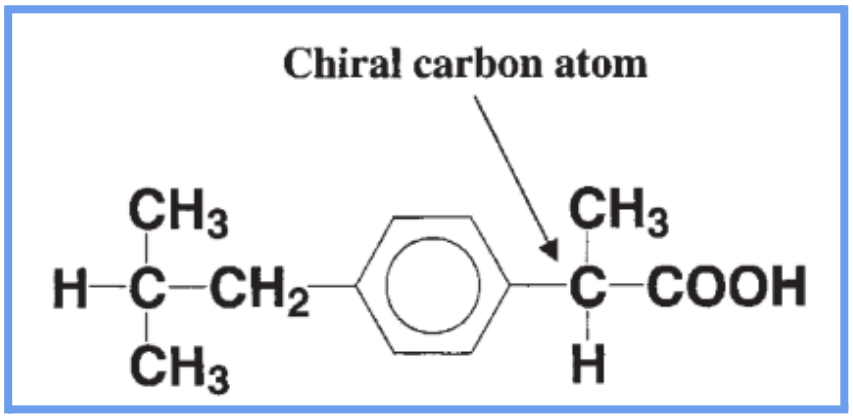


Figure 1. Ibuprofen structure

Ibuprofen Pharmacodynamics

S-Enantiomer: The S-enantiomer appears to be the only enantiomer that is capable of inhibiting both the COX-1 and COX-2 pathways for antipyretic effects and inflammation reduction. Along with COX inhibition, the S-enantiomer has the ability to prevent oxidative phosphorylation, fatty acid oxidation, and activation of neutrophils. S-ibuprofen has the same effects as the racemic mixture, and less of this enantiomer needs to be taken in order to have equal effects as the racemate.

R-Enantiomer: The R-enantiomer has no inhibitory effects on the COX pathway. However, it undergoes chiral inversion such that some of it is converted to the S-enantiomer when the racemic mixture is taken. Therefore, the R-enantiomer is capable of eliciting the same effects as the S-enantiomer once it is converted and has similar potency for the COX-1 and COX-2 enzymes. The rest of the R-enantiomer that is not converted can help reduce the production of metabolites (side products), however, it can contribute to other undesired side effects as well.

Ibuprofen Pharmacokinetics

S-Enantiomer: Protein-drug adducts production can be reduced when the pure S-enantiomer is taken. As seen in figure 2, researcher A.M. Evans states that its bioavailability is 100% and its plasma clearance is 50-150 ml/min. Glucuronide metabolites are formed during the process of excretion once it goes through the renal system.

R-Enantiomer: The R-enantiomer appears to have a lower Km (Michaelis-Menten constant) compared to the S-enantiomer which indicates it has more effective, tighter binding to the enzyme once converted. As shown in figure 2, it has a shorter half life and can suppress metabolism of lipids. Its conversion rate varies between patients depending on the disease/disorder the patient has, however, 50-60% of the R-enantiomer is converted on average.

Pure Enantiomer Benefits

The pure S-enantiomer demonstrates that it exhibits less side effects as opposed to the racemic mixture. It has higher efficacy than the racemate when taking lower doses. However, the adverse effects of both types appear to have no significant differences, thus the racemic mixture can safely be taken.

Conclusion

Researchers are still investigating whether or not the pure S-enantiomer should be distributed and sold on the market instead of the racemate. However, the racemic mixture demonstrates that it has no lethal side effects. The chiral inversion of the R-enantiomer to the S-enantiomer makes the racemate safe to take, and the unconverted R-enantiomer does have its benefits due to its suppression of toxic metabolites.

Table 1. Pharmacokinetic properties of ibuprofen enantiomers [2,4,6]

	General property	Parameter values
Absorption	Extensive; rapid for conventional products; rate but not extent influenced by food	Bioavailability of both enantiomers is about 100%; absorption half-life is about 30 min after conventional dose forms
Distribution	The enantiomers distribute extravascularly but have small volumes of distribution due to extensive binding to plasma albumin Slow distribution into and out of synovial fluid and CSF due in part to extensive plasma protein binding	Both enantiomers have a volume of distribution of about 10–12l The fraction unbound in plasma is 0.008 for S(+)-ibuprofen and 0.004 for R(-)-ibuprofen
Clearance	Mainly hepatically cleared; low hepatic extraction ratio and a clearance which is low relative to liver blood flow	Plasma clearance about 50–150 ml/min for both enantiomers
Route of elimination	Almost exclusively metabolic, by glucuronidation and oxidation. Large % of dose recovered as metabolites in urine. Minimal reliance on biliary excretion R(-)-ibuprofen undergoes metabolic chiral inversion and incorporation into triglycerides, whereas S(+)-ibuprofen does not	Greater than 90% recovery of oral dose in urine as metabolites, mainly oxidation products and their glucuronide metabolites
Half-life	Short half-life, requiring 3–4 doses per day in chronic conditions	Both enantiomers have a half-life of 2 hours in healthy adults. In some studies, the R(-)-enantiomer has a shorter half-life that S(+)-ibuprofen

Figure 2. Comparison of Enantiomer Pharmacokinetics

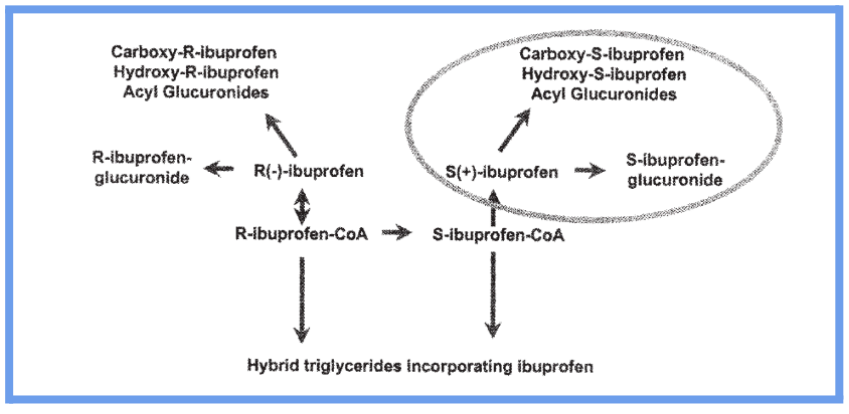


Figure 3. Diagram of Racemic Mixture Metabolism in the Body after Orally Administered

***All images obtained from the research paper**

Evans, A.M. Comparative Pharmacology of S(+)-Ibuprofen and (RS)-Ibuprofen. *Clin Rheumatol* 20 (Suppl 1), 9–14 (2001). https://doi.org/10.1007/BF03342662

RESEARCH SUMMARY

Mathematical Analysis of HIV-1 Dynamics in Vivo

Perelson S et al. https://doi.org/10.1137/S00361445983351

CLINICAL PROBLEM

HIV remains stable in the body for approximately ten years after Stage 1, termed the asymptomatic stage, before advancing to AIDS. This prolonged period of viral stability is critical to addressing the HIV/AIDS epidemic.

CLINICAL TRIAL

Design: To understand the dynamics of the immune system as it battled HIV during the asymptomatic stage, antiretroviral drugs were administered to patients, perturbing the virus. Calculus was crucial in determining key quantitative aspects: daily HIV production and elimination, virus clearance rate, virus growth, and decline rates.

Intervention: In 1995, patients received oral ritonavir (1200 mg/day), and viral load was closely monitored. Data collection occurred at short intervals: every two hours until the sixth hour, every 6 hours until day 2, then once a day until day 7, revealing exponential viral decay. In 1996, a 3-drug combination therapy was tested, leading to a 100-fold reduction in virus levels within 2 weeks, becoming undetectable after a month.

RESULTS

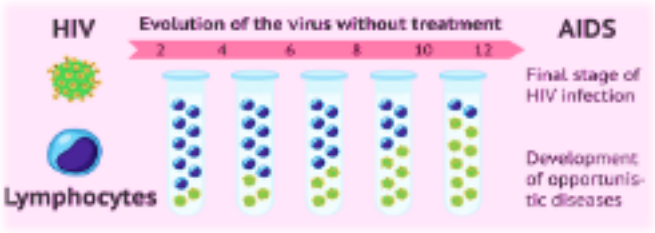
Efficacy: Combination therapy achieved viral suppression below 500 copies/ml by week 8, reaching < 25 copies/ml between weeks 16-20, with no observed drug resistance.

Safety: The most common side effects were diarrhea, headache, and nausea, especially in those administered 1200mg of ritonavir.

LIMITATIONS AND REMAINING QUESTIONS

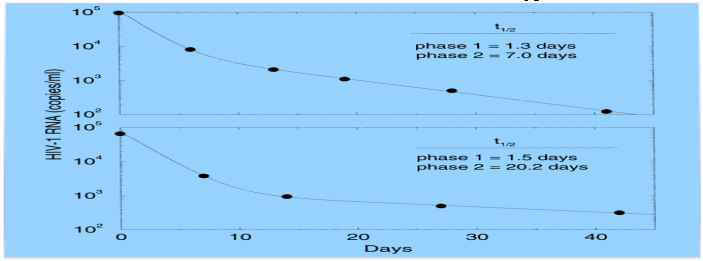
- Mathematical models simplify bodily processes and overlook details such as unequal drug distribution and efficacy over time.
- Is it possible to eradicate the virus?

HIV to AIDS Progression



$$\frac{dV}{V} = -cdt$$
$$V(t) = Vo(t)e^{-ct}$$
$$dV/dt = -cV$$
$$dV/dt = P - cV$$
$$P = cV_o$$

Two-Phase Decline in Plasma Virus After Combination Therapy



CONCLUSIONS

Given HIV's daily replication of 10 billion viral particles, single-drug treatment was deemed ineffective, prompting a shift to combination therapy.

Links: Full Article

Journal of Economic Perspectives—Volume 26, Number 3—Summer 2012—Pages 49–68

Research Summary

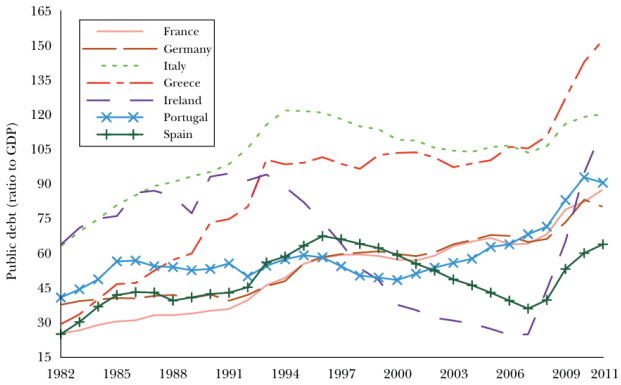
The European Sovereign Debt Crisis

Philip R. Lane

Problem:

The crisis highlighted structural weaknesses in the Eurozone, including a lack of fiscal union, banking union, and rigid monetary policy, leading to unsustainable sovereign debt levels in several member countries.

The Evolution of Public Debt, 1982–2011

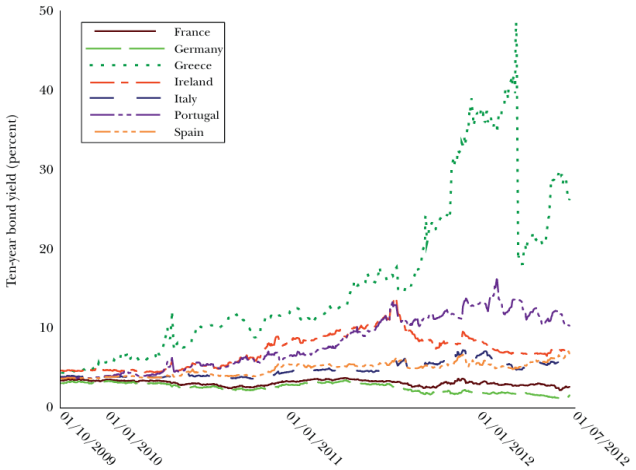


Source: Data from IMF Public Debt Database.

Method:

Analysis involved examining the origins, impacts, and responses to the crisis, including fiscal policies, banking sector issues, and macroeconomic imbalances. The study also considered reform proposals to address these structural weaknesses.

Yields on Ten-Year Sovereign Bonds, October 2009 to June 2012
(percent)



Source: Author's calculations based on data from Datastream.

Result:

Findings indicate that the crisis was exacerbated by the Eurozone's initial design flaws, lack of fiscal discipline, and inadequate crisis management mechanisms.

Efforts to stabilize the situation included financial bailouts, monetary policy adjustments, and moves towards banking and fiscal union.

Conclusion: The European sovereign debt crisis has highlighted significant structural weaknesses within the euro area and emphasized the need for deeper fiscal and banking integration among member states. The crisis has prompted a reassessment of the euro area's fiscal and monetary policies to strengthen the economic union and prevent future crises.

Discussion:

The crisis underscores the need for deeper integration within the Eurozone, including a more robust fiscal framework and banking union.

It also highlights the importance of fiscal discipline and the potential risks of high sovereign debt levels. Future reforms should focus on enhancing the Eurozone's resilience to shocks and ensuring sustainable economic growth.