Finding flow: exploring the potential for sustainable fulfilment

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Materialistic values and lifestyles have been associated with detrimental effects on both personal and planetary health. Therefore, there is a pressing need to identify activities and lifestyles that both promote human wellbeing and protect ecological wellbeing. In this Personal View, we explore the dynamics of a psychological state known as flow, in which people are shown to experience high levels of wellbeing through involvement in challenging activities that require some level of skill, and can often involve less materially intensive activities. By synthesising the results of a series of experience sampling, survey, and experimental studies, we identify optimal activities that are shown to have low environmental costs and high levels of human wellbeing. We also confirm that materialistic values tend to undermine people's ability to experience a flow state. In seeking to understand the reasons for this negative association between materialism and flow experiences, we are drawn towards a key role for what psychologists call self-regulation. We show, in particular, that the tendency to experience a flow state can be limited when self-regulatory strength is low and when people evade rather than confront negative or undesirable thoughts and situations. We reflect on the implications of these findings for the prospect of sustainable and fulfilling lifestyles.

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Introduction

Within consumer cultures, the so-called good life is often presented as an affluent one, replete with an inexhaustible supply of material goods.[1] At the national level, this strong desire for consumer goods presents problems for both the environment and societal wellbeing.[2,3] Increasing rates of production and consumption place devastating pressures on the earth's ecological resources,[4,5] contributing to problems such as climate change, biodiversity loss, and resource depletion.[6,7] However, at the same time, these increases in material wealth appear to have an ambivalent relationship in terms of human subjective wellbeing. Beyond the satisfaction of basic needs (eg, food, shelter, and access to health care), increased consumption does not consistently deliver greater happiness. Despite consistent increases in the gross domestic product (GDP—a measure of the monetary values of the goods and services produced and consumed within a nation), reported levels of happiness have remained largely unchanged, particularly in advanced economies, such as the USA and the UK.[8–10] Emerging research is also showing that in countries experiencing consumption growth, as measured by GDP and carbon footprint per capita, consumption is not linked to happiness levels.[11]

Furthermore, at the individual level the vision of a materialistic good life is problematic. When individuals internalise the opinion that happiness and status can be achieved via the acquisition of material goods,[12] they tend to show less environmental concern,[13] be less inclined to engage in pro-environmental behaviours,[14] and produce more greenhouse gas emissions.[15] The association between the possession of strong materialistic values and low personal wellbeing is also well documented. Those individuals placing more importance on acquiring consumer goods to improve their happiness and status have been shown to report lower life satisfaction and less self-esteem,[16] higher levels of depression and anxiety,[17] and less purpose in life.[18]

If materialistic lifestyles are both ecologically unsustainable and psychologically unfulfilling, it is clearly worth asking how the opposite case scenario might be possible; specifically, how could we enhance human wellbeing while limiting our ecological pressures on the planet? Human wellbeing clearly has material components, but it is far more than simply the absence of material poverty.[2,19] Human wellbeing encompasses a subjective component, in which individuals feel satisfied with their lives and experience frequent positive emotions, alongside a eudaimonic component, in which individuals are able to act in ways that are meaningful and help to fulfil their potential.[20] Clearly, not all of these aspects can be provided solely by consumer goods. Therefore, the prospect of having higher levels of wellbeing while inflicting less damage on the planet in the process is surely worth exploring.

Key messages

- Materialistic lifestyles are associated with poor outcomes for personal and planetary wellbeing.
- Flow experiences, whereby an individual is totally absorbed in an activity, are linked to higher levels of personal wellbeing and appear to be more likely to occur during activities that are less environmentally costly.
- Activities such as sports, arts and crafts, physical intimacy, speaking with friends, and contemplative practices are well placed to support the experience of flow in the absence of high environmental costs.
- Holding strong materialistic values makes an individual less likely to experience flow. This might be partly because more materialistic individuals tend to exhibit low levels of self-regulatory strength and try to avoid being in contact with uncomfortable feelings.
- Future work should aim to determine how best to encourage and support flow experiences to achieve sustainable fulfilment.

This Personal View examines the potential for flow experiences to offer a means of leading more enjoyable, more fulfilling, and more sustainable lives. In this Personal View, we synthesise the key themes that have emerged from our work on this topic, making reference to five specific studies. In particular, we have aimed to understand the links between flow state, wellbeing, and environmental impacts (study 1[21]), how materialistic values tend to impede our ability to achieve flow (studies 2–4[22]), and the reasons for this negative correlation (study 5[23]). These insights allow us to locate potential points of intervention to try to increase the likelihood of flow being achieved. Across this body of research, our focus has been on flow experiences that occur outside of work and we have used a mixture of experience sampling, survey, and experimental methods.

Flow

The flow state describes a state of optimal experience whereby an individual is completely immersed in an activity. In that moment everything just seems to come together for the actor. Flow experiences are actively created by a person when they choose to devote all of their attention to the task at hand. Although normally one would need to expend a lot of effort to maintain such intense concentration, in a flow state there is less perceived effort required to stay focused on the task.[24–26] This total concentration on the activity while in a flow state means that any awareness of the worries and concerns from everyday life is eliminated. This escape from the troubles of reality might be part of what makes the flow state an enjoyable experience.

While in a flow state, attention is focused exclusively on the activity in question, which seems to prevent an individual from perceiving themselves as a separate entity from the actions they are performing. This blurring of the barrier between the self and the action gives rise to an experience of effortless movement. The actor feels as though their actions are automatic, spontaneous, or effortless because they are not aware of any conscious effort to initiate them. For the same reason, in a flow state an individual also temporarily loses self-consciousness because there is no attention available for self-scrutiny. Rather than being preoccupied with living up to a certain standard, one is free to engage with a challenge in the absence of fear of failure, ridicule, or embarrassment. The flow state appears to alter an individual's perception of time such that, commonly, time seems to pass quickly.[25]

The experience of flow allows an individual to feel in control; that they are acting freely and have the ability to directly influence the outcome of the activity.[27] The experience of flow is also highly enjoyable and rewarding. For this reason, it is said to be intrinsically motivating (ie, people should want to create flow simply because they find the experience enjoyable, rather than for any external rewards it might bring).

Flow experiences should be more likely to occur when there is a perceived balance between the skills that a challenge requires and those that an individual possesses.[24] This balance should also occur above the individual's average skill level.[28] In other words, the individual should believe they are able to complete the task they are confronted with, but still feel challenged and stretched to perform at their best. If the challenges far outweigh the skills an individual possesses, the individual will be more likely to experience anxiety; however, if an individual's skill level is far above that required by the task, then the individual will be more likely to experience boredom.

Other conditions that help to facilitate the experience of flow are that the task has clear goals and that the individual receives immediate, unambiguous feedback concerning their progress towards these. Clear goals help to order attention and maintain connection to the task. Feedback could be in the form of bodily awareness or cues from the environment. This feedback does not have to be positive; the purpose of feedback is to help the individual to adjust their behaviour appropriately to remain in the flow state. Notably, feedback provided to an individual while they are in a flow state tends not to disrupt the flow experience. It appears to be easier to perceive feedback while in a flow state and to integrate this feedback into action without issues.[24]

The phenomenological characteristics of flow experiences appear to be consistent across cultures.[29] All people tend to experience flow as a state of high engagement, which is intrinsically motivated and involves feelings of effortlessness and control. However, a handful of studies have suggested that the factors that promote a flow state might differ across cultures. For example, Chinese students have been shown to be more likely to experience the characteristics of a flow state in low-challenge, high-skill activities.[30] In our research, we have focused on exploring flow experiences in high-income countries, particularly the UK and the USA, given that such nations are prime examples of consumer cultures.

Can flow experiences lead to sustainable wellbeing?

Flow experiences have long been considered beneficial for individual wellbeing. When Martin Seligman, one of the founders of positive psychology, proposed his PERMA theory of wellbeing, flow (or engagement as he called it) was included alongside positive emotions, relationships, meaning, and achievement as one of the five elements that can deliver personal wellbeing.[31] Additionally, psychological research has documented that people who experience flow more frequently tend to have higher life satisfaction,[32] more self-esteem,[33] and a greater sense of fulfilment.[34] One single experience of flow has also been shown to lead to a momentary increase in positive feelings,[35] which is a finding supported by neuroscientific evidence that has shown that, during a flow state, there is

reduced activation in brain networks that generate negative arousal.[36] The flow state might benefit wellbeing because it is an inherently enjoyable state, thus supporting subjective components of wellbeing. Additionally, this state allows individuals to feel competent and fulfilled as they perform skilfully, thus supporting the eudaimonic components of wellbeing.[25]

In study 1,[21] we explored the association between flow states and wellbeing further. By examining experience sampling data concerning how the members of 500 US families felt during their leisure activities, we could infer if and when individuals were experiencing the characteristics of a flow state and map this onto their responses to wellbeing questionnaires. We showed that one high-quality experience of flow was able to give people an immediate boost in wellbeing at the time of the flow experience. However, it was only when people started to have more frequent experiences of flow that this state was linked to greater wellbeing outside of the time when the flow experience took place.

Csikszentmihalyi[37] has suggested that the reason that flow experiences might be able to offer a more sustainable form of wellbeing is because they are able to occur in activities with lower environmental costs (ie, activities that use fewer material and energy resources and impose fewer impacts on the environment). Noting that such activities often resulted in greater happiness, he proposed that this outcome was because the activities tended to require greater inputs of attention (or as he called it, psychic energy). For example, when comparing the experience of watching television with that of writing poetry, watching television requires substantial amounts of material and energy resources to produce and run the television set, but the act of watching television demands little mental effort on behalf of the viewer. By contrast, writing poetry requires only a pen and piece of paper, but the mental demands on the writer are much greater in that they cannot be passive and must focus on generating creative ideas. In this example, at least, the level of investment of mental effort and attention is greater in the activity with lower environmental costs.

Csikszentmihalyi proposed that the example is generalisable in the sense that a flow state draws on psychic energy rather than on external energy and material resources. Looking at the types of activities that existing research has shown to be supportive of flow experiences, this pattern does seem to emerge somewhat. The flow state has been shown to be more likely to occur in activities such as yoga, schoolwork, exercise, and socialising[32,35] and less so in more passive leisure activities, such as listening to music or watching television.[38,39] Therefore, high investments of material or energy resources, or both, might not be a necessary precondition for experiencing flow. Although a number of sustainability scholars have acknowledged this proposed link between a flow state and sustainability,[2,40] until the past few years, this association had not been subject to any scientific testing.

The aim of study 1[21] was to explore this association more systematically. The environmental costs of an activity were measured using greenhouse gas intensities. Specifically, the greenhouse gas emissions that typically arise, both directly (eg, electricity to power lights and appliances or fuel for personal transportation) and indirectly (eg, emissions that arise during the production and distribution of products and services used by households) per unit of time while carrying out an activity. The results of study 1 showed a small but statistically significant effect whereby an activity's greenhouse gas intensity was negatively related to the level of flow people reported experiencing within it (ie, people were reporting stronger flow experiences in those activities that had lower environmental costs). Furthermore, this negative association between the experience of flow and the environmental costs associated with an activity also had an explanatory role in the association between the environmental costs of an activity and the wellbeing of the actor engaged in it. Put simply, activities with lower environmental costs had a tendency to encourage the experience of flow, which in turn could improve the actor's wellbeing in the moment. Together, these findings offered clear support for Csikszentmihalyi's[37] proposals and helped to strengthen the evidence that flow experiences can offer a form of sustainable wellbeing.

Although we found that a flow state is more probable in activities associated with less environmental cost, not all experiences of flow are supportive of sustainable wellbeing. It is not difficult to think of activities conducive to a flow state that have negative environmental impacts. Car racing or skiing might be among the relevant examples of this type of activity. Therefore, we are not suggesting in our argument that all flow experiences can offer a form of sustainable wellbeing. Rather, we believe that there are optimal activities that have the potential to support high-quality flow experiences in the absence of high environmental costs, and engagement in these activities should be promoted. Our study aimed to identify those specific types of activities that can be both flow-conducive and have low environmental costs. By grouping the activities shown in figure 1 (ie, those found to be the most supportive of flow while having the lowest greenhouse gas intensity in our research with US families), we identified five groups of activities that appear to have the potential to support a flow state and have low environmental costs: (1) positive, romantic relationships (eg, spending time with a partner and physical and sexual intimacy); (2) contemplative activities (eg, prayer, meditation, and yoga); (3) creative activities (eg, arts and crafts, singing and dancing, and performing arts); (4) sports and physical exercise (eg, cycling, aerobics, and ball games); and (5) social engagement (eg, playing with children and talking with neighbours).

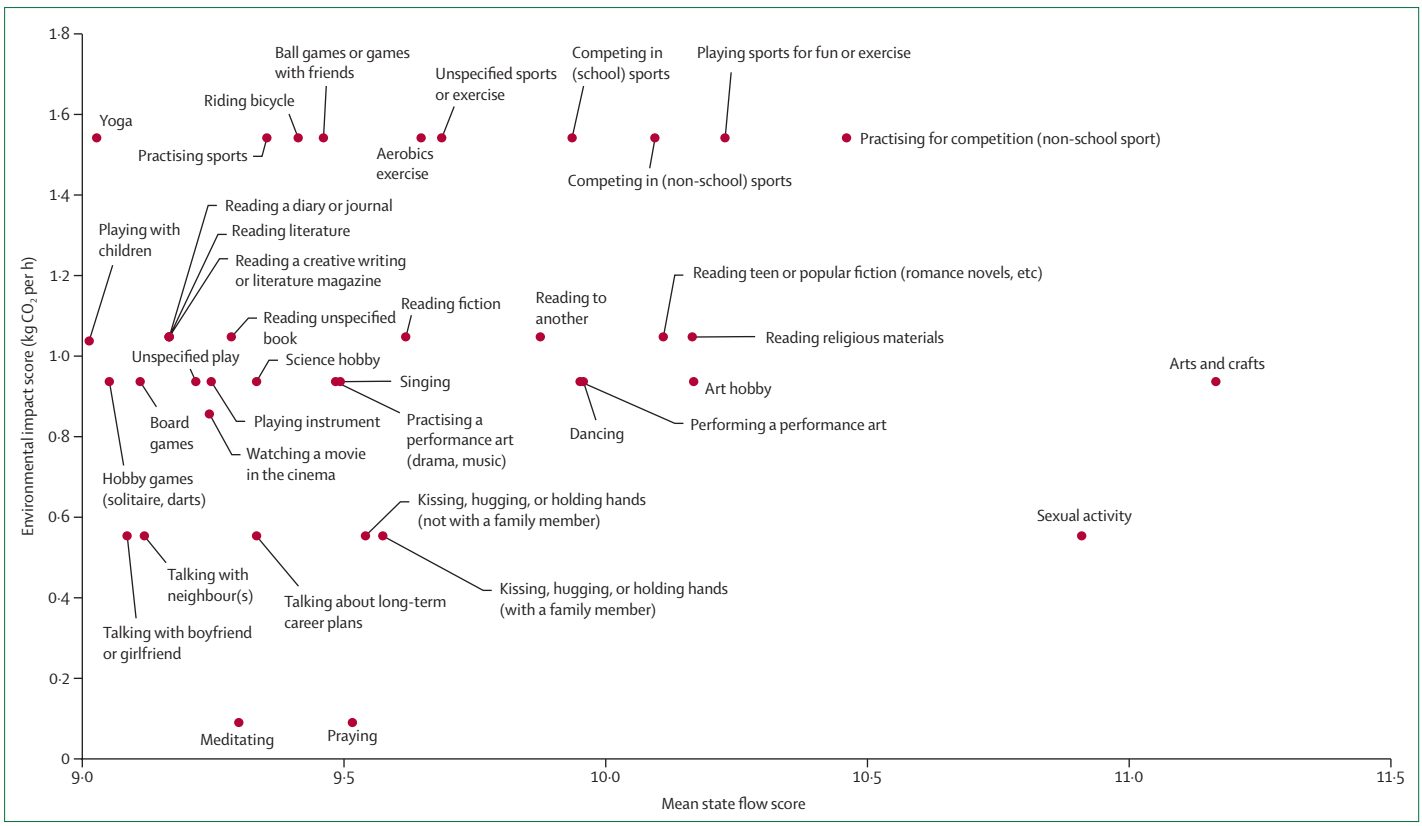

Figure 1: **The most flow-conducive but least environmentally impactful activities reported by participants in study 1**[21]
This figure has been reproduced from Isham and colleagues,[21] by permission of SAGE Publications.

Is materialism a barrier to experiencing a flow state?

Flow experiences have the potential to offer a form of sustainable wellbeing when they are achieved through activities that are less environmentally costly, but this fact alone is not useful unless a better understanding of how to achieve frequent flow experiences across society can be reached. To achieve this understanding two questions need to be answered: (1) are there features within our current consumer societies which could limit the experience of flow, and (2) what are the steps needed to alter current behaviours and beliefs to make flow experiences more accessible to individuals? Studies 2–5[22,23] addressed the first of these questions.

One characteristic of consumer societies that we have focused on in our work so far is the presence of strong materialistic values. In the literature, suggestions have been made that individuals holding strong materialistic values might be less likely to experience flow.[41] When we say that someone holds strong materialistic values we mean that they place a large emphasis on the acquisition of money and consumer goods, believing that their ownership will lead to happiness and greater social status.[12] Hence, it is reasonable to conjecture that the values promoted by consumer cultures work to hinder our ability to achieve sustainable wellbeing through flow experiences. There are various reasons for theorising that materialism could limit flow experiences. For example, a preoccupation with material rewards and public image could prevent an individual from fully engaging with an activity for reasons of enjoyment only.[41]

Studies 2–4 tested this proposed negative effect of materialistic values on flow experiences empirically.[22] First, in study 2, we examined the strength of people's materialistic values and asked them how often they experience the characteristics of a flow state in their daily lives in a survey. Findings showed that those people who report the strongest materialistic values also tend to be the ones experiencing the characteristics of a flow state less frequently. We tested the causal nature of this relationship further in study 3. Using an experiment in university research laboratories, we found that temporarily increasing the strength of students' materialism by exposing them to materialistic cues (eg, imagining being in a luxury shopping centre and purchasing products) led them to report poorer quality flow experiences in a subsequent activity than did those participants who had not had their materialistic values heightened. This finding was then replicated in study 4 using an online experiment and a sample of British

adults. Manipulating the strength of materialistic values in controlled experiments allowed us to determine the causal relationship between materialistic values and the experience of flow. Our findings suggested that holding strong materialistic values makes it less probable that individuals will experience flow. Therefore, a flow state might have the potential to deliver beneficial effects in terms of personal and planetary wellbeing, but a focus on material goods seems to prevent people from fully experiencing flow. This means that the values often promoted by consumer societies might not be supportive of, and might even be undermining, the potential for flow experiences.

Why is materialism associated with a reduced likelihood of experiencing flow?

Overview

Our cross-sectional and experimental findings suggest that holding strong materialistic values is associated with a reduced likelihood of experiencing flow. Subsequently, we wanted to understand why this negative association might exist. Therefore, we turned our attention towards the individual capabilities that might influence the likelihood of individuals experiencing flow. In particular, we focused on exploring the roles that the level of self-regulatory strength and the way in which people are inclined to self-regulate can have in explaining the negative relationship between materialism and the experience of flow.

Low levels of self-regulatory strength

Self-regulation describes the process by which individuals are able to change their thoughts, emotions, and behaviours such that they are in line with certain goals, norms, or expectations.[42] Examples of successful self-regulation might include choosing to only eat healthy foods when on a diet or suppressing nerves before giving a presentation. We use the term self-regulatory strength to refer to each individual's ability to self-regulate. People who are successfully able to execute self-regulatory processes are, therefore, considered to have good self-regulatory strength. Self-regulatory strength can be assessed over longer time frames (ie, as a trait-level, individual difference factor) or in specific instances (ie, situational, temporary fluctuations).

Notably, a flow state is an experience that is actively created by the individual when they choose to engage in high-skill, high-challenge activities. For most people, it is not possible just to suddenly experience flow. Effort is required to develop the necessary skills and invest attention in the correct ways. The experience of a flow state would, therefore, seem to require self-regulatory strength.[43] To develop a sufficiently high level of skill, self-regulatory strength will be required to initiate practice, manage behavioural performance, and persist in the skill development process even when experiencing feelings of frustration.[44] If an individual is unable to resist the urge to watch television in the evening rather than practise piano, for example, then the individual is unlikely to develop a level of skill high enough to experience flow during piano playing. Furthermore, during the flow experience itself, self-regulatory strength will be necessary to manage attention such that there is no interference from distracting stimuli.[24]

If self-regulatory strength is required to experience flow and highly materialistic individuals are less flow prone, this suggests that more materialistic individuals might not have levels of self-regulatory strength that are high enough to successfully create flow experiences. Existing research would seem to support this assumption. The possession of strong materialistic values has been linked to a number of behaviours that imply scarce self-regulatory strength. These behaviours include compulsive buying,[45] impulsive buying,[46] and hedonic behaviours (eg, smoking and drug use).[16] In study 5,[23] we explored this suggestion further. Using a nationally representative survey of 2000 individuals in the UK, we found that those people reporting the strongest materialistic values tend to have lower trait levels of self-regulatory strength compared with those people reporting weaker materialistic values. Notably, these low levels of self-regulatory strength were also linked to less frequent experiences of flow in their daily lives. Low levels of self-regulatory strength, therefore, appear to partly explain why more materialistic individuals are less inclined to experience flow.

Avoidance of negative experiences

Different individuals might choose to use their self-regulatory abilities in different ways. Regulatory focus theory,[47,48] for example, suggests that people can be inclined to use their self-regulatory strength towards the promotion of positive outcomes or the prevention of negative ones. Flow experiences might be more or less likely based on the way in which an individual is inclined to use their self-regulatory strength. For example, Stenseng and colleagues[49] found that individuals who approached their leisure activities viewing them as an opportunity for personal growth (in line with a promotion focus) were more likely to experience flow in these activities than those individuals who approached the activities viewing them as a means of avoiding thinking negatively about the self and current stressors (in line with a prevention focus). Similarly, Asakawa[34] found that Japanese college students who had a preference for maladaptive coping styles, often involving the avoidance of problems, experienced flow less often.

Therefore, purposeful attempts to prevent and avoid negative experiences might hinder an individual's ability to experience flow. At the same time, materialistic values have been linked to a tendency to use self-regulatory strength to avoid being in contact with negative thoughts, feelings, or situations.[50,51] Sortheix and Schwartz's[52] adapted version of Schwartz's[53] circumplex value structure represents the different types of values that have shown to

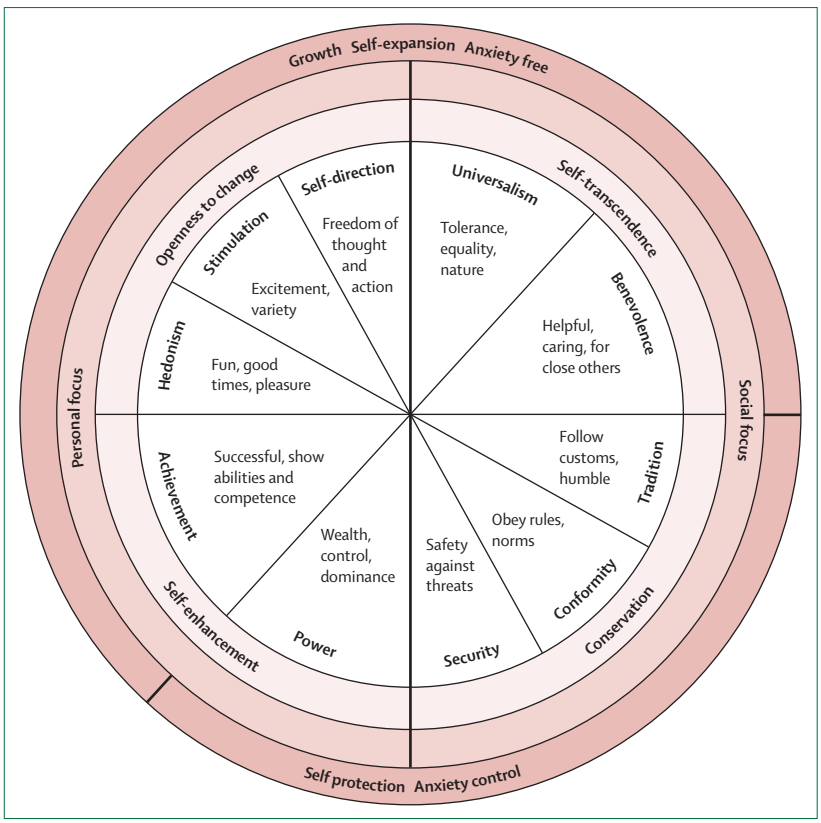

***Figure 2*: Value circumplex structure**
This figure has been reproduced from Sortheix and Schwartz,[52] *European Journal of Personality*, Vol 3, Issue 1, pp 189, copyright © 2017 by the *European Association of Personality Psychology*. Reprinted by Permission of SAGE Publications.

group together across cultures (figure 2). Within this structure, materialistic values are said to be strongly related to self-enhancement values and also slightly related to conservation values.[54] Sortheix and Schwartz[52] highlighted that there were two underlying motivational structures behind Schwartz's[53] circumplex value structure. These structures concerned how each of the values related to anxiety. Those values in the lower half of the circle revolve around needing to control anxiety and protect oneself from threat. At the same time, those values in the upper half of the circle are more concerned with pursuing personal growth. Schwarz[55] also noted that the upper and lower halves of the circle motivated promotion and prevention self-regulation, respectively. As materialism is located in the lower half of Schwartz's model, this would thus suggest that materialistic values should be associated with the desire to control anxiety and a prevention regulatory focus.

In study 5,[33] measures of each individual's desire to use their self-regulatory strength towards the avoidance of negative experiences were included. The results showed that highly materialistic individuals have a tendency to believe that negative states, both internal and external, are best avoided, and that this desire to avoid negative states was linked to a lesser tendency to experience flow. This fact alone is interesting as it suggests that trying to avoid negative experiences might interfere with the likelihood of materialistic individuals to frequently experience flow. However, a desire to avoid negative experiences was also linked to lower levels of self-regulatory strength. The implication seems to be that the level of self-regulatory strength and the way that materialistic individuals are inclined to self-regulate are intricately linked and, together, work to explain why more materialistic people often struggle to experience flow. Other researchers have supported this idea that having a desire to avoid negative states (or a prevention regulatory focus) can lead individuals to display lower self-regulatory strength.[56,57] Also, previous findings have shown that individuals with high levels of self-regulatory strength tend to experience fewer negative emotions because they are better at managing their different goals.[58] This finding might imply that having high levels of self-regulatory strength means that individuals have less of a need to try and avoid negative states.

How could we promote sustainable flow?

If the materialistic values often promoted within consumer societies are not supportive of flow experiences, what are the steps that can be taken to alter current behaviours and beliefs to make flow experiences more accessible? Based on the research findings outlined in this Personal View, we have identified several possible areas for interventions.

Studies 3–4[22] have shown that materialistic values are able to have a direct, undermining effect on flow experiences. Therefore, one obvious solution is to reduce the prevalence and strength of materialistic values. Experimental research has tended to temporarily heighten materialistic values using cues such as images of luxury goods[17] or brand logos or advertisements.[59] Greater exposure to consumer advertising[60] has also been linked to the adoption of stronger materialistic values. Therefore, one way to reduce materialism could be to reduce the prominence of advertising within society.[61]

Promising suggestions have been put forward that the COVID-19 pandemic might be prompting a shift in values away from materialism and towards more community-based and pro-environmental values.[62] Studies are documenting that, during the pandemic, there has been an increase in public awareness of nature-related issues, such as biodiversity, forest spaces, and wildlife.[63] Solidarity and care for others have also been documented to be higher than pre-pandemic levels in certain European countries.[64] Consumption patterns look like they might also be changing as a result of the pandemic, with people caring less about non-essential, luxury, status-signalling goods and instead learning to live with less and prioritise more basic needs, such as those for hygiene and cleaning products.[65,66] If these patterns continue, flow experiences could become more frequent occurrences.

As well as directly targeting materialistic values, flow experiences could be encouraged by promoting the development of those factors that have been reported to be able to partly explain why more materialistic individuals struggle to experience flow. Notably, so far, our findings are correlational and, thus, we must first establish the causal nature of the relationships in further experimental and longitudinal studies before actually implementing interventions in the following areas. Nevertheless, the following two areas have potential to be points for interventions in the future.

Study 5 highlighted that low levels of self-regulatory strength were associated with a reduced likelihood of experiencing flow. Encouraging the development of self-regulatory strength could, therefore, be one means through which flow experiences might be promoted within modern societies. One promising way of boosting self-regulatory strength is through the practice of mindfulness. When being mindful, individuals deliberately focus their attention on the present moment while trying not to react to their thoughts or outside events in an automatic or judgmental way.[67] The practice of regulating attention and emotion through mindfulness can enhance self-regulatory strength[68,69] and is associated with a greater tendency to experience flow.[70] What is even more promising is that mindfulness has been linked to weaker materialistic values.[71] This finding means that mindfulness might be able to encourage the experience of flow through several different pathways, including boosting self-regulatory strength and reducing materialistic values.

Aiming to discourage the view that negative experiences and emotions are inherently bad and, thus, reduce people's desire to avoid negative experiences might also help to promote flow within modern societies by facilitating higher levels of self-regulatory strength. Academics have begun to fault an emphasis on positivity,[72,73] but public understanding of the benefits of discomfort could still be increased. Since September, 2020, schoolchildren of all ages in England are receiving compulsory education in mental wellbeing.[74] Including content on the effective management (not avoidance) of negative states and emphasis that discomfort is a normal part of life in this curriculum might help promote flow experiences in these age groups. This approach is just one example of how society can begin to promote the acceptance of negative experiences and, in turn, perhaps improve people's likelihood of experiencing flow.

Conclusions and moving forward

Consumption-based, materialistic lifestyles are ecologically unsustainable and fail to provide high levels of wellbeing at both the national and individual level. In this Personal View, we have outlined the emerging potential for flow experiences to provide a source of high wellbeing when they are pursued through activities with low environmental costs. Our research shows that, despite the potential for flow experiences to improve wellbeing without high environmental costs, the materialistic values promoted within consumer societies might undermine people's ability to achieve flow. To encourage flow experiences within modern societies, we propose exploring routes such as tackling the prevalence of materialistic values, increasing people's capability for self-regulation, and reducing the desire to avoid negative states and experiences.

Research in this area remains in its infancy, and there are many avenues for future research that still need to be explored. For example, it is not clear how the environmental costs of an activity might change as an individual gradually increases their skills and therefore needs to seek new challenges.[25] Equally, so far, we have focused on single activities. Thus, it is important to determine how different activities might be often combined or enacted in sequence, and the environmental consequences of this. Research is also yet to determine whether there is an optimal amount of flow time required to achieve the best wellbeing outcomes, which might be theoretically and practically interesting to assess given that very frequent experiences of flow in a single activity can sometimes lead to feelings of dependence and addiction.[75] Additionally, we are working to explore how frequent experiences of flow might be able to promote more pro-ecological and self-transcendent values over time.

For transition into an ecologically safe and just space for humanity, developing the current understanding of the actions that individuals can take to live both well and sustainably is crucial. We hope that this discussion will inspire further enquiry into flow experiences as a means of sustainable fulfilment, to help clarify the pathways to individual and planetary wellbeing.

Contributors

The concept of this Personal View was conceived by AI and TJ. The literature search was conducted by AI. The original draft was written by AI. The original manuscript was revised by TJ.

Declaration of interests

We declare no competing interests.

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