

Sertraline – a happy mode of transport

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Introduction

This inquiry covers the research and thinking behind my major project *Sertraline – a happy mode of transport* and does so while highlighting my overall design philosophies and beliefs. I use my story and mental health history to talk through my design journey and thinking. Because of the nature of the content there is a lot of negativity but I still realise how privileged I am, I have a lovely family and plenty of opportunities for which I am eternally grateful. But to explore depression I must explore its causes.

I undertook a lot of primary research (through questionnaires etc.) while writing this inquiry and a full write up of my processes, reasoning and findings is attached (figure 6). I can provide the document separately if necessary.

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Independent Inquiry

This was meant to be written a year ago, but a lot changed for me when I admitted to nearly killing myself last October. Having struggled with depression, anxiety and suicidal thoughts for 9 years I realised I had to act, culminating in a year off. This is where the idea of my project “Sertraline – a happy mode of transport” was born.

My brief for this project is to “design a vehicle interior to promote happiness and mental wellbeing”. Sertraline is a common anti-depressant I have been taking for over a year and is prescribed for a variety of severe mental health problems, including depression, anxiety and suicidal thoughts (BNF Joint Formulary Committee, 2019). I found the name appropriate given the drug and my project aim to improve mental health.

During the last year I have thought a great deal about mental health, realising the depth of its impact on life; and its impact on me and my design. Design is integral to life – it surrounds us – even more so for designers or design students. I will explore mental health’s effect on my design philosophies and the subsequent research.

The Roots of my Mental Illness

I wasn’t always aware, but my depression surfaced after my father’s death (February 2010). I was already a quiet and shy child, and we had just moved to a new area as I started secondary school. I was lucky it was a grammar school, a privilege that suited me at the time despite poor pastoral care.

Ripon Grammar felt right because despite perceptions and my own beliefs (given my plethora of stupid comments and decisions) I was considered academically intelligent and ambitious, even in a grammar school; where I was ranked me at the top of my year by “intelligence” tests.

I don’t like this perception of intelligence though – a perception that has had a big impact. I have intelligent parents – especially my mother, who despite being told girls can’t do maths, got excellent grades in 6 A-levels, and became a world class accountant. I was born privileged in this respect and I was encouraged to learn before starting school. I was immediately labelled “intelligent” at primary school, taken out of class for extra maths lessons and allowed into the library unsupervised having read the rest of the books in school. I was aware that other students noticed and still feel embarrassment typing it.

It meant I was treated differently, I can’t remember much malice, but it still made me uncomfortable. Because of this I almost developed a separate persona around friends. I got into trouble a lot, partly due to boredom but mostly to fit in with “friends”. I messed around and made friends with the people who caused trouble, avoiding being singled out. This is where I started being able to hide my negative emotions, though I was a happy, normal child (Reid and Morgan, 2012).

While I was academically successful, this isn’t the only intelligence measure. Yes, it is related, but intelligence is also social and emotional. I know plenty of people who aren’t academically successful, but I would still consider them intelligent. My dad failed his O Levels first time, and got 5 on his second attempt, leaving school a year late with a BTEC, having focussed on running. He luckily got an athletics scholarship

and due to injuries ended up working very hard, becoming nearly as good an accountant as my mum. A lot of intelligence tests are measures of logic, maths and English skills and sometimes open-mindedness. But struggling to express emotion is a sign of poor emotional intelligence. I may have academic intelligence, but I lack emotional intelligence.

A more extreme example is straight A, star student Jason H. He planned on attending Harvard medical school, and had no history of mental illness, but one stabbed his physics teacher. That teacher had given him an 80 or a B on a test. He thought this damaged his chances so although the knife was supposedly to kill himself, he experienced a psychosis and stabbed his teacher. However, despite being set free under the provision it was a random psychotic episode, the student never apologised to the teacher. This student was academically exceptional (graduating top of his class two years later) but he wasn't emotionally intelligent enough to realise his response was unnecessary and disproportionate (Goleman, 1996). While far more extreme than my case, there are similarities – I sacrificed my mental health out of a lack of emotional intelligence and academic desire.

The logical thinking combined with the open-mindedness which tends to help in my strongest subjects should have helped me notice my problems. However, I think I used flawed logic to persuade myself I wasn't depressed. Wrongly, I assumed I was able to manage, thinking if other people handled much worse, why couldn't I? I know now this is incorrect – first of all you can't tell how someone really feels, and other people's pain doesn't take away from your own, it doesn't make it any less real or severe (Bird and Pease, 2019).

I tried to carry on as normal after my dad died, trying to distance what had happened by keeping everything else the same, despite having had the worst shock ever; returning to school after one day off. I was surrounded by friends and family, a benefit of school, but I didn't want to express my true feelings, filtering my thoughts, thinking if I didn't then I would have an adverse effect on them, upsetting them. I isolated myself, and I was already considered a bit different and weird even amongst friends at a grammar school, so it impacted me further (Brown, 2017). At one point I even desired to be different, I'm not sure why in hindsight – it was as though I wanted to stand out, but I never liked attention – it could have been a sign of self-destructive behaviour. I soon went too far with this, being different for the sake of it, rather than because I wanted to or thought I should.

I carried this into design. Not purposefully – I learnt it wasn't necessary to force it while still at school – but I believe being different if there is purpose and thought behind it is a positive. Individuality is huge in design – James Dyson revolutionised vacuum design, making over \$13 billion from one main invention that he adapted for multiple uses (figure 1), because he believed in his unique idea (Bloomberg, 2019). However, I think "unique" design is overdone.

I realised through purposely being different – and later through observation; how obsessive and possessive people get over originality. While it is critical, it is only necessary when better results than competitors are possible. If designers don't believe a unique idea is superior to alternatives why would consumers? Why spend money on something you don't believe in? Originality is key for progression but pointless if there is no progress, or regression. If an idea is original but pointless, then it isn't innovative.

Rhys Way's (Product Design Graduate) glass chair project from two years ago is an example of this (figure 2). His reasoning wasn't particularly focused on function, instead he philosophised about how designers constrain themselves with what they and the general population define design as. However, to me design includes function – it is part of design – and if it is not included then you are looking at art. Therefore, to me his project is not design but art. He blurred the lines between the two, which was the whole point of his project – breaking the conventions and definitions which he felt restrained his work. So in a way I agree with him – he doesn't have to do design the way we define it because he's a designer – but I don't necessarily agree with his execution, and from a pure design perspective his chair is different for no reason other than to be unique and it severely compromises function.

I think to be successfully original you must believe in your own design and importantly the thinking behind it. Self-belief, and therefore belief in your work heavily influences work ethic, which then affects success of work, which then affects your mental health further. Self-belief in design leads to a positive feedback cycle which can only be a good thing (Kitson, Prpa and Riecke, 2018). In some ways car design saved my life, it gave me purpose and something to enjoy. I didn't always enjoy subjects at school, not helped by being discouragingly slow at handwriting, despite being reasonably capable across all subjects.

This therefore compounded my mental health problems – I wasn't enjoying work so didn't fulfil my potential, leading to a negative feedback cycle instead. And despite getting above average grades, I left school disappointed, knowing I could have done better and been happier doing it.

Moving to University

My natural abilities and an academic school meant I was always encouraged to study maths or engineering. I enjoyed these subjects, but I didn't want to study further, I wanted to do design. I attended a maths summer school in Oxford for the top ranked mathematicians my age, but this just put me off studying maths or attending a university as disconnected and snobby as Oxford; rather than encouraging me to push it further. Everyone else there was more passionate than me – I realised I needed to find a subject I was passionate about. Throughout sixth form I was still being pushed towards engineering and at the time I still trusted school had my best interests in mind. I worked in an engineering team with Network Rail for much of this time and as much as I tried to enjoy myself, and school pushed me to do so, I still came out of it realising it wasn't the subject for me.

School still didn't want me to follow my passion. I realise now that they were pushing me towards courses that made them look good. I wanted to come here, but even the headteacher got involved in searching for a more "appropriate" course (i.e. a Russell group university). They tried to discourage me, telling me I was "too intelligent" and would "get bored". Ironically, telling me I was "too intelligent" worked against them, I wanted to prove them wrong, disprove their elitism, especially as I have previously established that I am not massively intelligent, rather just academically successful.

I know now I made the right decision, but if not for friends, family and select teachers, I might have been in some boring engineering lecture theatre. This

experience in hindsight has now made me realise how having passion far outweighs the importance or effectiveness of natural ability and so-called intelligence when it comes to the success of outcomes of that work, and a worker's mental health.

Age 16 I really started using running to cope. I started running years earlier because my dad did, and I got to do it with him. It was special time spent, and he had passed on some of his natural ability. I struggled with my running relationship after his death. The night he died he had run very hard to catch me up after I had tried to race away at the end of the run. I still regularly blame myself and despite many people telling me it isn't my fault, it seems logical he may have survived had I not raced him that night, or if I had the clarity of mind to perform CPR, though I probably wasn't strong enough if I had tried.

It took years before I began training consistently again, it often reminded me of the mistakes I made that night. But I realised at 16 that it helped me relax and sometimes remember him. I started training more, overtraining even, ignoring advice from more experienced athletes, theorising it must be working, I was getting happier, not realising I just felt happier. This trend continued at university, I had more on my mind and for five months I was running 90-100 miles a week. I was getting more results, racing on the national and international stage now, telling myself it was due to high mileage rather than improved training quality, having joined my current training group and coach at Swansea Harriers and improving naturally with age.

I started university having never done "proper" sketching, just what I did at school in art and design lessons. I quickly improved, going from around average towards the top of the class. So, as with running, I practiced more. I loved it and practicing meant improvement and more employability. I didn't really overwork, except when poor time management struck – but my workload did increase. I started well – finishing with some of the highest marks in the year.

I still had work-life balance, but with setbacks. My coach finally encouraged me to reduce my training load, but the damage was done, and after my last PB (to date) in February 2017 I tore a hip stabiliser. I stupidly ran through it, just reducing intensity, insisting it was fine and it sort of worked. I didn't return with any consistency though and I continued overworking despite obvious fragility. I got my university work done early to return home. I knew my (maternal) grandad was ill, but not that he had been diagnosed with terminal cancer – my mum and grandma didn't want to distract me. The day I returned we had our last conversation; he died a week later. He was 82 and I knew it was coming, but it still had a huge impact, having been a huge part of my life and my mum and grandma's life, especially since losing my dad.

As I used to cope this made me push myself harder. By mid-August despite continued injury problems I was at my fittest. But before my two biggest targets for my athletics season, my piriformis tore again – I was out for a month. That month I returned to Swansea so dedicated this free time to work, staying in the studio all day. Excellent for my work, having fewer distractions and more people to learn from (leading to immediate improvement), but not for balance. I felt more pressure than ever – realising the standard of work required for employment. I soon returned to running, but I hadn't healed fully. I obsessed over internships, running internationally and working constantly – allowing no relaxation.

I have always had breakdowns, running crying to my mum having had enough. Their frequency increased after my dad died, but over time it wasn't just grief. I didn't want to upset my mum; she lost her husband. I gained even more respect for her after he died. She is very logical and level-headed, and similarly private with emotions – she was grieving; I didn't want to add to it. 74% of the UK's population have experienced some form of stress in the last year – what I was experiencing (in terms of work stress etc.) wasn't abnormal, but I never saw much around me – everyone was private – so I didn't think it was normal and I hid it (Mental Health Foundation, 2019).

So, throughout school I lost emotional availability, burying emotions until alone – a symptom of depression; but I wasn't aware – and any time my mind wandered into that realm of thought, I wrote it off as grief due to similar symptoms (NHS, 2019). My breakdowns continued, becoming increasingly clear it wasn't just grief. I got close to suicide more times than I remember, deciding the world was better without me. I continued as so, hidden, at university; convinced I had a negative influence making suicide the only positive influence I could have in my mind (Schimelpfening, 2019).

Pressure built in second year, and I avoided relaxing and sharing feelings, suicidal urges growing. One particularly painful memory is stage one of our project with Land Rover. Barely sleeping, aiming to produce my best work possible I got metaphorically destroyed by the professional designers, taking their feedback personally. Afterwards I walked around Swansea for hours inconsolable. I'd wasted time focussing on the wrong things rather than self-evaluating my work.

I had a severe episode of selective attention, or "tunnel-vision". When anyone focusses on a task, they focus solely on that task and not their surroundings (Eriksen, 1995). For example, online UX experts Nielson Norman tested their users on the Westfield (property developers) website, checking user friendliness. They tasked users with finding the year Westfield entered the UK market, and despite using a timeline that clearly expressed dates on each page (figure 3), some couldn't work it out. This is an example of how focus can lead to missing obvious data due to selective attention. Because users focus on the bottom where most information is located, they don't look up. In this case useful information can be grouped (figure 4) for ease of location (Nielson, 2012a).

In more general design situations, reducing it requires more observation taking a step back, looking at surroundings and looking at work in relation with its surroundings (i.e. its context). For transport design, Gökhan Eryigit who graduated in 2018, gave me a tip – look at existing cars and compare them to your design looking at what makes their designs work or not (Pease and Eryigit, 2018). Though simple, it's effective – if all existing designs have traits in common, and your own doesn't, why is this? Linking back to purpose – if design differs, why is that? Is there reasoning, or should conformity be considered in this aspect?

Though not immediately apparent this was another huge moment for me. Though obvious I realised that I didn't look at cars from a design perspective enough. However, I still avoided relaxation, theorising I needed to work harder to overcome this.

I already believed in not overworking design, rather keeping it clean and simple. This is Dieter Rams' tenth principle of design "Good design is as little design as

possible". I'm a huge fan of Dieter Rams' work and design principles – I tend to agree with them. "As little design as possible" means stripping design back to its purest form (Vitsoe, 2019). Overworking (i.e. what I was doing) leads to overcomplication – not "as little design as possible". Some of this minimal attitude has carried across from mathematics – where the less work the better – Mathematicians strive for efficiency (Chateau, 2017). Maths however allows perfection (at school level) and perfectionism is another trait I carried over.

Perfection can't exist in design (Berkun, 1999) – "the dividing line between good and bad design [is] not drawn sharply" (Petroski, 2004) – which I struggled with. I focussed on the wrong things – I had more control over sketch quality, so went over designs repeatedly, improving line weight and perspective rather than developing the design. Sketch quality is important, but why communicate poor design well? Particularly during our Land Rover project, I had ugly, ill-proportioned work, void of proper development or context.

These are extremely important aspects. Context gives purpose – why should design exist if not to solve a contextualised problem? Design decisions and features need purpose, as explained earlier. Context needs to be understood and applied to every decision – "Ideas can die on the table if you can't explain them well" (Eaton, 2018a). The Land Rover designers highlighted this – I couldn't fully justify some decisions, and they pointed out my poor aesthetics, development and decision making. Each decision needs consideration and contextualisation as it affects users and their environment (Eaton, 2018b).

Users and their environment give personal vehicles purpose. Designers can get very egotistical – focusing on what they want to do, forgetting purpose and context and "having a huge ego can make us forget that people are what make design, design" (Eaton, 2018b). Emotion and passion are necessary, but users need to come first – they buy the vehicles and pay you at the end of the day (Chapin, 2019). Design is applied art as explained earlier – expression and provocation are necessary, but purpose and professionalism more so. Art is a statement with no practical application, but design has application.

Emotion must be injected into design – if not, machines would be better than us (McCaffrey, 2017 and Haefele, 2019). We need to design with emotion to inspire emotions through that design. The more successful a design, the bigger the emotional response – and why not a positive response, especially in the case of my project? For example, Supercars are sought for their passion and excitement; born in the mind of designers. When you witness designers talk about their work you see passion. Watching interviews with Peter Wouda (Design Director, VW) clearly shows this. In one video about how to become a designer, he talks of numerous sacrifices made, but it is worth it because "it's your dream You do anything for your dream" (2018). Designers need incredible passion just to get the job.

Even purchases are passionate and emotional – you may think you're buying logically according to price or functionality, but this is controlled emotionally. The cheapest option makes you feel better as you can spend the money elsewhere, whether on bills or luxuries (Johnson, 2012). And one of the biggest emotional triggers is aesthetics.

Hence aesthetic is extremely important. Aesthetics catch (or fail to catch) customer's eyes – and whether conscious or not, they are hugely influenced by their opinion on aesthetic. People make purchases due to impressions made within 90 seconds of viewing (Aaron, 2016). Even function tends to be decided on via aesthetics – people will buy a product that looks like it will do a better job, especially when there is no chance to test competition.

With aesthetics comes proportions. Proportions define aesthetics – “incorrect” proportions will make anything look objectively ugly. Good proportions also help with ergonomics – through this we can theorise how proportions define aesthetics. If we look at a typically attractive person, they will have very average physical measurements in proportion with the rest of their body – i.e. they wouldn't be really tall but narrow and thin, neither short and fat. The average shaped person tends to fit best with ergonomically designed products, and ergonomic products often have an ergonomic aesthetic.

This means they look the most comfortable, and in terms of a product that would be ergonomic, this tends to be the best aesthetic to have. For example, a “good looking” chair (that would be considered good looking by most people) would look comfortable to sit on, given that is its purpose. Therefore, the best proportioned chair would look most comfortable, and therefore ergonomic and aesthetically pleasing. Of course, other factors like materials also influence the comfort of a chair so aesthetics aren't the only defining feature. So, the most averagely proportioned people – are considered most attractive – and the same can be said for designs (Stephens, 2015).

I knew this starting the live project, but I was still ill-focused – and I realised this in hindsight again. Speaking to lecturers and more senior students I formulated a plan for improvement. This helped my work, but again increased workload and anxiety. I pushed harder, and it was recognised in the final feedback, a relief, but helping me justify damaging myself.

Reaching Breaking Point

I was approaching my worst. I had an injury so serious I may never run again, barely able to walk for over a year. I was in constant pain and had no training to use as an outlet, but I continued overworking, not going on the family holiday, instead spending time working in Swansea.

This proved dreadful for my mental health I was now living alone; 8 hours travel away from my family. I struggled (physically and mentally) just going to see my coach and training group, using work as an excuse. Somehow, I didn't finish a single project, obsessing over “perfection”, stopping me progressing. That summer I barely went a day without a breakdown – though still in private. I locked myself in a room, sometimes in silence, sometimes screaming in pain. I got close to suicide countless times, convinced the world was better without me.

Hiding the emotion got harder until it spilled into conversation with a friend. I accidentally gave away my feelings, and she recognised similarities with her own depression. I slowly admitted to myself that I had known for years but told myself I was weak, in denial. I still didn't act, not telling anyone. This was mid-August; it took until early September to decide I needed to act.

My housemates returned at this point, and we're very close, but I didn't want to burden them. While talking with Ruben (who graduated last year) we reached the topic of suicide and I hinted I had been close. I also mentioned going to the GP, and Ruben really encouraged this. Still petrified I only told my housemates I had an appointment. Walking there was one of the scariest journeys of my life.

I needn't have been scared – with the most supportive doctor and housemates I could have asked for, but it was still painful. My doctor set targets and discussed options, including Sertraline. Returning to talk to my housemates was equally as difficult. Jay was away but knew something was wrong – even messaging him was hard. It took ages to start telling Ben, Ruben and Elliot, but I couldn't have asked for a more supportive household.

This leads onto teamwork – a very common philosophy – for a reason. Even solo projects are improved with third party feedback and fresh perspective, the same way a supportive team network, with fresh perspective and objective opinion is required to improve mental health. I have learnt so much in design from peers, lecturers and professionals; and I believe a team environment – i.e. a studio environment – is necessary to maximise productivity. Designing in isolation leads to selective attention (Erikson, 1995), likely creating designs without enough context, development or reasoning – as I discovered in the Land Rover project.

Over the last 50+ years companies have realised the importance of teamwork. LMA (an international team building company) help teams work on three aspects – openness, trust and respect – allowing clear, useful team communication. Clear useful communication is the main requirement for successful teamwork – it means everyone knows what is happening and they can work at maximum efficiency. Teambuilding companies existing shows teamwork's importance. Companies spend serious time and money on teambuilding, so it must be worth even more time and money. If designers don't work as a team, and communicate clearly then everyone will chase personal goals, pleasing their ego, rather than collectively creating the best ideas and products that themselves work as efficiently as possible (LMA, 2019)

One effective example of the importance of teamwork is the NHS. Over 1.7 million people work within the NHS – the fifth biggest workforce in the world (Andalo, 2018), so teamwork is vital. Every year every worker completes a simple teamwork survey, classifying them as either working in a good team (approx. 40%), working in a pseudo-team (approx. 50%) or not working in a team (approx. 10%). The survey has found that the more people in an NHS trust that work in a good team, the lower the level of staff injury rates, witnessed errors that could cause harm, abuse or violence from patients and associated parties, staff absentee levels and most importantly, lower patient mortality levels. This shows a clear link between good teamwork and effectiveness. If hospitals are improved by good teamwork, any teams could be more effective with clear, useful communication (West, 2012).

After expressing my feelings, I realised I felt happy and relaxed in a way I hadn't since I could remember. The old saying "a problem shared is a problem halved" relates back to teamwork. Because I had told my friends, they could help with my problems – I had five times the brainpower, with fresh perspectives to help combat my mental health, and it immediately felt that way.

Now I had to tell my family. By chance my mum, grandma and my one of my sisters were visiting that weekend, but I still didn't open up until they were leaving on Sunday. They were shocked, and my mum still struggles understanding. She's logical and strong but struggles to understand how it's possible – yes, I have had a few bad experiences, but I am still extremely lucky and privileged.

She always struggles a bit if not experiencing phenomena first hand – she is supremely intelligent but struggles with anything “out of the box” – my dad would always say she was good with details but not the big picture. For example, while she is an excellent mathematician, she hates physics and can't understand it, despite it being applied maths, because it often isn't something you can experience. Some of her attitude towards mental health is denial, as she hasn't experienced it in her mind. My aunt – her sister has a long history of mental illness so severe it has terminally affected her physical health. I think my mum has blocked this out – she was very close to her older sister while growing up making it an even more painful experience. Denying it is her way of processing it. Denial is a coping mechanism that we use to protect ourselves from confronting painful experiences like this (Khan, 2019).

After talking to a university counsellor, my GP, family and lecturers I decided it was healthier taking time out. I felt so relieved, with time to heal and recover. At the same time, I was thinking about improving in this year and stupidly continued overworking. This shows how poor my mental state was, I was on a cliff-edge but all I could think about was the things that got me there.

Summer came quickly, and I slowly gained more work-life balance, though still with plenty of bad days. My running injuries were healing, and I built up to training properly on the bike – with a goal to work towards (a one-day coast-to-coast ride). However, three weeks out, while out riding I crashed into a dry-stone wall at over 30mph. I woke up and tried to get back to my bike, but it turned out I had been unconscious for 45 minutes and the people and paramedics standing over me were just glad I wasn't dead. I realised I wouldn't be riding home when I tried to talk but couldn't having suffered a pneumothorax and badly broken clavicle.

I am still healing, but strangely I think it helped my mental health. I feel guilty of course – I caused no end of worry for my family and felt like I was wasting NHS resources – but it feels like a turning point. I still have improvements to make; I still have bad days, but I'm enjoying work, what training I can do and taking some time to relax. Maybe it was the generosity of doctors and nurses that inspired this, or just realising I do want to be alive.

Now I have finished my sob story, I can reflect on its influence on my design work, and how emotion and design relate. Bad days happen – but a healthy, balanced designer is necessary for good design. My mental health has been my limiting factor and as this improves so should my design. A designer needs to be sustainable the same way everything should be.

Summary of Specific Research

“Positivity” isn't a function you can add to design. To design with an anti-depressant manner, I investigated what makes people happy. I decided to do an interior project

because it's my strength and given that's where people spend their time it is the area emotion can be affected most.

My research included a lot of primary data collection that I undertook over summer: an exploration of what makes me happy; an exploration of what I think makes others happy; various questionnaires (for the general population and experts in psychology) establishing what makes people happy and links between mental health and vehicle use. In addition, I have undertaken secondary research on happiness (and how colours affect this) as well as the research already highlighted above. This all combined to create my initial design specification (figure 5).

The first point highlighted in my specification is carrying two people in a comfortable environment where they feel safe talking. The expert I interviewed said the best thing for mental health is "honest communication with a trusted individual" – like counselling. This was backed by the likes of Cleasby who highlighted meaningful relationships as a requirement for happiness (2014). Therefore, a two-person vehicle makes most sense – higher capacity means room for others to listen to private, sensitive conversations. Secondly my design should be asymmetric – Jones (a secondary source) expressed how this is less formal and friendlier (2018).

Third is sustainable design. The climate is in crisis and most people – especially in younger generations – are becoming increasingly concerned. Transport does damage the environment, so we need to take responsibility and design accordingly. 14.3% of questionnaire respondents said nature made them happy so this sustainability can be integrated – for example growing plants inside or allowing animals inside – we need the environment to survive to enjoy it. Shareability (co-ownership etc.) – the fourth target – can also help sustainability. If people don't have individual vehicles, rather just one when needed, we could save resources and space through less manufacturing and stationary vehicles (ACEA, 2018).

Many activities that make people happy require equipment (e.g. sport). So, my fifth point is including storage. Sixth is optional privacy to allow anything you might want privacy for – sex, sleep, talking in private (Weigand, 2017). Seventh – providing facilities for food, drink etc. (e.g. fridge, coffee machine).

Some activities require space – providing a comfortable place for this can help (Joyful Days, 2019). A lot of this can be possible with to a customisable design, allowing truly personal, tailored vehicles – my next point. To make this design useful it needs to be accessible despite any disabilities, lack of money or mental difficulties that could make travelling harder – my ninth specification point.

Finally, I will ensure the colours are positive. Colours have huge psychological effect – making up 62-90% of people's first impressions of products, so can really alter mental health (Muhammed, 2018). Most colours have positive connotations but need balance to avoid overpowering. Avoiding black, white and purple is necessary due to negative connotations (Wright, 2018).

Yellow can create warm, happy and creative environments – blue is credible and trustworthy. Orange indicates fun and playfulness, red purveys power, passion, excitement and love. Similarly, pink shows love and passion, with femininity and sexuality. Green links to nature, peace and balance, grey is neutral and balanced; and brown very grounded, warm and supportive (Muhammed, 2018).

Too much can be dangerous though, yellow can get depressing and suicidal, blue unfriendly and cold, orange immature. Pink can look weak while red can overpower – so much it has physical consequences – raising heart rates and causing anger (Cao, 2018). Green, grey and brown can get a bit boring (Wright, 2018).

Applying Philosophies

Throughout this story I outlined my design philosophies, how I discovered them, and the reasoning behind them. I will use these philosophies, combined with my project-specific research to create my major project design direction.

My first philosophy is the importance of context. The importance of this research proves this. Research allows context and scenario to be built within which purposeful designs can be created. It also gives parameters to work within, so straying away from convention and innovation is controlled and reasonable my next philosophy. Being different –but only with reason and belief, only when there is an advantage. Research and context show where this is appropriate.

Enjoying the process is next. I believe happy designers create better design; hence I aim to be healthier than I have been. For users to extract positive emotions designers need to inject positivity – especially as this is the point of the project. I need balance so my design can too.

Ensuring designs are user-centric is next –designers get very egotistical and stray away from users and it damages design. My specification is to ensure a user focused design. My next philosophy – the importance of aesthetics helps users – they want this. This links to proportions, both of which stay at the back of my head given the problems they have caused me in the past.

I also stressed simplicity. Not only does simplicity make good design, but it helps mental health – cluttered design means a cluttered brain. Similarly, I focussed on overworking and avoiding this should keep the design simple, ensuring everything has purpose. Simplicity also tends to help sustainability, my final philosophy. I design with sustainable materials and manufacture in mind so there is still a planet to design for.

This look at my life, design beliefs and the research I have done gives an insight into how I design and why I do it this way, especially for this project. The result of my philosophies and research leads to the project I will continue developing this year.

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Appendix

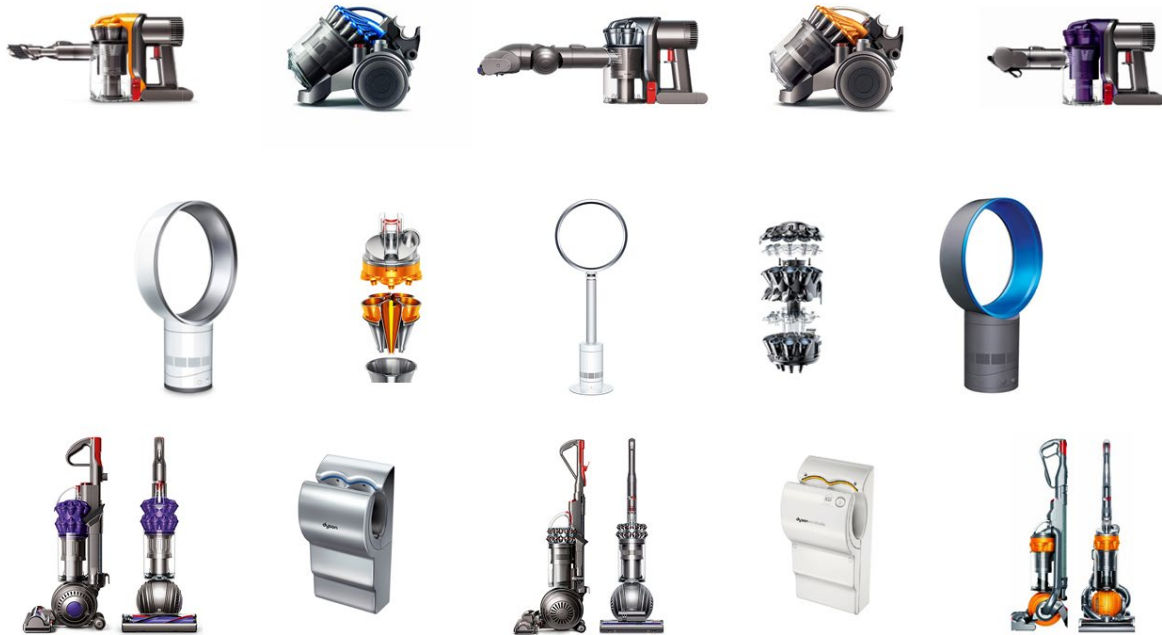


Figure 1 *A variety of Dyson products all using the same invention – Dyson’s cyclone technology – at their core* (youngengineers.wales, 2019)



Figure 2 *Rhys Way’s final major degree project* (Discover Product Design Instagram, 2018)



Figure 3 *Timeline post that people missed the date on* (Nielson, 2012b)



Figure 4 *Edited timeline post that makes the date more noticeable* (Nielson, 2012b)

Ben Pease

Initial Specification

P149324

Initial Specification

This is my initial specification outlining my design direction based on what I have discovered in my research (see *Major Project Research Summary*). The following are design requirements:

- Carry 2 people in comfortable, friendly environment where it is safe to talk
- Asymmetric design creating a friendlier less formal feel
- Sustainable (recycled materials etc.) to attract more people and making it futureproof
- Shareable (e.g. car share, rental service) to avoid cost and space of individual ownership
- Storage for personal items, equipment etc. which could improve happiness
- Optional Privacy
- Connection to nature, surroundings and life via windows, connectivity etc.
- Facilities for food, drinks etc.
- Room for hobbies, games etc. to be enjoyed
- Accessible to all (disabilities, illness etc.)
- Customisable (via modular units etc.) to help comfort and friendliness
- Balanced, positive colour schemes avoiding too much black, white and deep purple

Figure 5 *My Initial Specification*

Research Summary

I carried this research out using my primary data and secondary sources (listed in *Bibliography*). As this is a very personal project inspired by my own mental health even this research is opinionated – mental health is a very subjective, immeasurably complex subject. *Documents in italics are separate documents.*

My first primary source of data is myself (hence it is biased and opinionated). I had a year out between completing my second year of university and this final year after realising it was healthier to take time to try and improve my mental health. This gave me plenty of thinking time, to dwell on my situation and emotions, as well as on other people's and their differences. I used my thoughts to write my *Manifesto* and *My thoughts on others' happiness*, expressing within what I think makes me and other people happy respectively.

Next, I used Facebook to spread a questionnaire I wrote to gauge what other people think makes them happy. While this limits the population to my Facebook network (friends and mutual friends) it was the most effective way of collecting data with my resources. Having previously asked people in public I know this isn't particularly effective either as no one wants to stop and answer questions. I got a total of 77 responses – enough to be considered balanced (my minimum was 50).

I designed *Questionnaire 3a* to discover what makes people happy; and whether individuals drive, own cars, show interest in car sharing or have experienced mental illness. This is so I can look at relationships between these metrics – for example do people with mental health problems tend to dislike car sharing? I can then tailor my design direction towards helping mentally vulnerable people feel more positive – looking at what they like and what may make them feel better without realising by looking at the no mental illness results.

My final primary source is an interview I undertook with an expert in psychology and mental health. Experts are far better informed, and due to the nature of their work I believe they tend to be more open minded and less subjective.

I have also used secondary sources of information to back up my primary research. Given the popularity and importance of the subject there are numerous sources which I can use to cross check and ensure I have accurate information. As well as backing up my other sources, if multiple sources give the same information it may apply to more people. As mental health is so individual there is no "one size fits all" solution but there are some methods and information that will have more success.

1) Manifesto and My thoughts on others' happiness

A summary of my learning and opinions built while writing my *Manifesto* and *My thoughts on other's happiness*.

What makes me happy and my design process etc. is complex and explored fully in my *Manifesto*. But the "things" that I think make me happy include family and friends, peace and relaxation, achievement, others being happy, food and drink, sports and beauty.

This is where I started with *My thoughts on others' happiness* – I know others enjoy similar things, and I continued adding things I have experienced people enjoying. When reviewing what I had written I realised I could categorise the "things" (figure 1.1.). I used the same categories as those in *Questionnaire 3a* question 5. These are: friends and family; sport; hobbies; nature; travel; food, drink and drugs; money; relaxing; life itself; and sex.

From here I categorised further, narrowing it down to these themes: 1. People and company 2. Chemicals 3. Activities 4. Physical objects and 5. Relaxation. There are crossovers – sex combines people and chemicals in the brain – and to a certain extent all emotion and happiness is physical and chemical in the way that our body feels pleasure. I can use these themes to focus my design to create maximum pleasure in each area.

19.5%; hobbies, 14.3%; nature, 14.3%; travel, 9.1%; food, drink and drugs, 7.8%; money, 5.2%, relaxing, 3.9%; life itself, 3.9%; and sex, 1.3% (Figures 1.10-1.11).

While not possible to give people all these things within a vehicle, it is possible to allow access to each in some way. Family and friends can and are travelled with, and with ever increasing connectivity it is important to be able to contact anyone via your vehicle. Most sports can't be undertaken inside a vehicle, but the ability to travel for sport and carry equipment is important. Some hobbies can be enjoyed during travel (especially with autonomy), especially if a comfy environment is provided.

Nature isn't really directly accessible while travelling, but travel does allow you to get to nature, and windows allow you views of the environments around you – something that needs to be taken advantage of. Travel and vehicles often have negative impacts on the environment, sustainability must be considered.

In my experience people who enjoy travel tend to enjoy the journey as much as the destination – which requires a comfortable vehicle making the most of these categories. Food, drink and drugs of course can all be used while travelling, and to increase enjoyment facilities like fridges and coffee machines could be installed (though illegal drug use shouldn't be encouraged).

Money can't really be provided by a vehicle, but better value cars with lower costs will make money conscious people happier. Relaxation can't be forced, but vehicles that creates a comfortable environment are likely to help. If life itself is satisfying enough for people then to keep this the same, travel mustn't inconvenience and distract from this, again requiring a comfortable environment.

Sex can't be forced either, but a sex friendly environment can. People normally have sex in private so for people to enjoy sex in a vehicle, it would need the ability to be completely private and comfortable.

Regular drivers – people who are more likely to use a car – have a similar spread of answers to the whole sample (figures 1.24-1.25), as do car owners (figures 1.32-1.33). Unfortunately, because there far less data regarding non-regular drivers and non-car owners when answers are spread across 10 categories, meaning it isn't reliable enough to use (figures 1.26-1.27, 1.34-1.35).

This means that being regular driver or a car owner doesn't affect what makes you happy, therefore it needn't affect my design direction. That leaves just people who have suffered from mental health issues to analyse regarding what makes them happy. The share of answers for people with a history of mental illness is: friends and family, 9.1%; sport, 9.1%; hobbies, 0%; nature, 36.4%; travel, 0%; food, drink and drugs, 9.1%; money, 9.1%; relaxing, 9.1%; life itself, 9.1%; and sex, 9.1% (figures 1.42-1.43).

So, while most categories have some answers, the most popular theme for those with mental health history is nature with 36.4% of votes. This tells me that I should ensure a strong connection between nature and the people inside the vehicle.

In short, *Questionnaire 3a* has taught us the following. People still want a personal vehicle, without the cost – something that can be solved with a system like car sharing or co ownership. Those with a history of mental illness are less likely to use cars, so we need to help them enjoy and access personal vehicles. Finally, a wide range of things make people happy, from friends and family to money, so a vehicle to make as many people happy as possible needs involve as many of these things as possible (friends and family; sport; hobbies; nature; travel; food, drink and drugs; money; relaxing; life itself and sex). Particularly to help those with mental illness we need to focus on connecting with nature as this is what they highlighted as the most important.

3) Expert on what makes people happy

A summary of my learnings from *Questionnaire 3b* completed by an expert in psychology and mental health.

2) What makes other people happy?

Next, I used *Questionnaire 3a* to gauge what the general population think makes them happy, and how different groups (drivers, car owners, car sharers, mentally ill etc.) have differing views.

The first question *Do you drive regularly?* not only gave me an idea of how much of the population drive and want to use a car regularly, but also what makes these people happy. This allows me an insight into why drivers like cars (something about cars may make them happy) and using non-driver data I can see why they don't drive, and what would encourage them to drive. I can combine this question with the others to find out how regular drivers view car ownership and car sharing etc.

The first metric I analysed was how many people drive regularly – 80.5% drive regularly, 19.5% don't (figures 1.2-1.3). This shows that despite changing opinions on transportation (climate change, cost etc.) the majority prefer personal vehicles like cars; probably due to ease, comfort and privacy.

The second question *Do you own a car?* confirms this. 71.4% of the sample owned cars while 28.6% didn't (figures 1.4-1.5) with 85.5% of the regular drivers owning cars (figures 1.12-1.13). This is not surprising, further suggesting that cars are popular due to their personal nature, allowing you to personalise and travel on your own timetable.

Further to this, just 13.3% of non-regular drivers own cars, 86.7% don't (figures 1.14-1.15). Not only because non-drivers don't need cars but maybe also because they don't feel the need and/or can't afford the personal, private travel.

This still indicates a desire for personal transport – though the third question contradicts this a little; *Would you be interested in car sharing?* 50.6% answered yes, 49.4% saying no (figures 1.6-1.7). This may seem surprising as car sharing (however car sharing is interpreted – from giving friends lifts to co ownership with strangers) is the opposite of personal vehicles.

Even 45.2% of the regular drivers indicated interest in car sharing (figures 1.16-1.17) and 73.3% of non-regular drivers (figures 1.18-1.19). I think this indicates a change in attitude – with the current economic and environmental climate crisis's and over population etc. people are opening up to car sharing as they look to save money, space and the environment. This is backed up further by 47.3% of the car owners (figures 1.28-1.29), and 59.1% of non-car owners being interested (figures 1.30-1.31) – even car owners are interested in sharing their personal property.

This "contradiction" points towards a balance between the two – with the advantages of both. People want the freedom, comfort, privacy and ease of a personal vehicle but not the cost (money, space and environmental). This could mean co ownership, or a hire system like uber (but autonomous without driver).

Next, I looked at whether mental health affects transportation usage with the question *Have you any history of mental illness?* Results showed 14.3% do have a history of mental illness, with the other 85.7% answering no (figures 1.8-1.9). Just 12.9% of regular drivers have a history of mental illness (figures 1.20-1.21) – whereas 20% of non-regular drivers have experienced mental illness (figures 1.22-1.23). While these figures aren't massively different this is due to the relatively small percentage of people that have experienced mental health difficulties.

Of the mental health sufferers, 72.7% drive regularly (figures 1.36-1.37) and 63.6% of them own a car (figures 1.38-1.39). This is about 8% lower compared to the whole sample for both figures (and even more compared to people who haven't experienced mental illness) – showing a link between mental health and car usage proving the relationship between mental health and transport needs addressing, if the mentally ill struggle to travel it compounds their problems.

There wasn't as significant a change in car sharing interest among people with mental health issues; 54.5% expressing interest and 45.5% not (figures 1.40-1.41) compared to 50.6% and 49.4% in the whole sample (figures 1.6-1.7).

The final question *Name one thing that makes you happy* is a big part of determining my design direction. Results were widespread as expected, but I categorised all answers into one of ten categories that suited all individual answers. These are the same categories I used above (in *My thoughts on others' happiness*) with each scoring the following: friends and family, 20.8%; sport,

The first question established the expert's connection to psychology and mental health. The second question – *Name one thing that you believe improves mental health and happiness for everyone* – can be used to influence my design.

I got a very simple answer *Honest communication with a trusted individual*. This makes it clear that travelling with one trusted person in a comfortable environment that makes communication as easy as possible is very important. This means a comfortable two-seat layout like many counsellor's offices should be most effective.

My third question was *Name one thing that makes you happy* was to gauge what an expert believes creates happiness. An expert is much more likely to have a considered answer that really results in true happiness. The answer *seeing people be kind to each other* seems obvious and is important; as it creates a positive feedback loop. If people always see kindness and this makes them happy, they will do the same and happiness will spread. Therefore, making vehicles that improve happiness is important and effective.

My final question for the expert was *Do you think physical objects can improve mental health and happiness?* I checked whether vehicles can improve mental health, and the answer I got – *I think they can to a certain extent – for example if you have a house you will probably be happier than being homeless* – showed me they definitely can. *The certain extent* part is like the classic "money can't buy happiness" saying, but if the physical object – i.e. the vehicle – can bring non-physical, happy experiences that improve mental health and happiness then it can definitely do more than a simple object.

In short, interviewing the expert confirmed that this project has a point – vehicles can create happy environments – especially if designed using the guidelines highlighted above.

4) Secondary research

This section uses secondary research to reinforce what I have already learnt, also looking at specific colours and design features that have a positive impact.

My first source covered three of the themes explored in my primary research. It stated the three truest causes of happiness are quality of relationships (romantic, family and friends, general social life), having an enjoyable job and/or hobby and helping others (volunteering, random acts of kindness). The article also claimed material goods and money are not good for happiness – having an abundance of money and focussing on it does not increase happiness and often decreases it (Boyd, 2019).

The next source again reinforced previous research, highlighting more of the themes previously analysed. Meaningful relationships (with trusted individuals), enough money to be comfortable (so you don't worry), acts of kindness, relaxation and physical exertion (sport) all stated as important for mental health. Another highlighted category previously undiscussed was time, how it is more valuable than money, making you happier. This is like relaxing – having excess time allows relaxation and other enjoyable activities (Loria, 2017).

My third source highlighted: getting enough sleep, spending more time with friends, laughing and enough (well spent) to be comfortable as the most important. Sleep is a form of relaxing and laughter is relaxing and sociable. Again, this confirms what I found in primary research (Weigand, 2017).

Next, I found a list of things the writer believes bring happiness: family and relationships, meaningful work, positive thinking, gratitude, forgiveness, giving to others, personal freedom and watching TV. The family and relationships reinforce my research further; as does gratitude, forgiveness and giving to others. Work is a huge part of life, and is often related to hobbies and life itself, with positive thinking, personal freedom and watching TV all forms of relaxation (Joyful Days, 2019).

The fifth source focused on "Buddhist economics" saying happiness and fulfilment comes from helping others and making them happy rather than materialism. Helping others achieve and giving,

creating meaningful relationships with these people is far more important for happiness (Brown, 2017).

My final source on happiness focused on two main themes – to create and enjoy meaningful relationships with those you care about around you, and being kind and giving (Cleasby, 2014). All these sources back up my earlier discoveries confirming what I need to focus on. This is a friendly, comfortable environment easy to communicate in, with excellent views of nature and optional privacy.

The final part of this research is investigating colours, materials and design features with positive effects appropriate for use in my design.

Colour has always been a huge throughout culture and communication, and we know even ancient Egyptians used it to express differences. They used green to represent vegetation and life, while black represented death and doom (Muhammed, 2018).

This is due to colour's effect on human perception – a study found that in marketing 62-90% of immediate assessment (the first 90 seconds) is done on colour. Colour can be used to differentiate between brands and competitors, moods and emotions. Moods and emotions are fickle and so extremely important in marketing etc. the same study showing colours can increase or decrease appetite, enhance moods, calm people down and give the perception of decreased waiting time (Muhammed, 2018).

Geography can also change the effect of certain colours – for example in the West we consider white pure – using it for weddings etc. However, in India white is the colour of death and mourning, used and worn at funerals. All colours have some universal effects though, which I can use to greatest effect (Muhammed, 2018).

Figure 2.1 shows there is some colours that are gender specific, but with more similarities than differences. In general, men prefer blue, green and black, while women prefer blue, purple and green. Men tend to avoid brown, orange and purple, while women avoid orange, brown and grey, if you wanted to attract everyone you might want to use blue and green, avoiding brown and orange. To appeal to just women you might use purple, and likewise black and grey for men (Muhammed, 2018). Of course, this is just a generalisation and given the diversification in genders and sexuality this is becoming increasingly redundant and offensive.

Having colours rather than grayscale can be hugely effect, the same study showing 92% of people believe colour signifies quality; 90% believe it attracts custom and increases memorability. 83% think colour brings more success; 81% believing in a competitive edge and 76% also thinking colour makes businesses seem larger. In terms of engagement – an average black and white photo will capture attention for an average of 2/3 of a second, compared to two seconds for a colour (Muhammed, 2018).

Colour can signify budget and quality and attract different types of people. Lots of colours make trigger individual memories, making connections in people's heads (figure 2.2). This also means they have individual emotional responses and while these may be positive for one person, the same colour could be negative for another (Wright, 2018).

Yellow is considered warm and happy in almost all cultures and is very good for grabbing attention. It can also breed creativity and enlightenment, features used by brands like IKEA and McDonalds to draw customers in (Muhammed, 2018). Yellow is very emotional and too much of the wrong shade can trigger responses like depression, low self-esteem and even suicide (Wright, 2018).

Blue tends to give credibility and trust, encouraging communication though can also be unapproachable, emotionless, unfriendly and cold. Many banks and social media platforms (Facebook, Twitter) use this to great effect (Muhammed, 2018). The trust is due to its intellectual nature, and being so cool, it can be soothing and logical (Wright, 2018).

Black is associated with luxury and prestige – used by brands like Chanel and Yves Saint Laurent effectively. Black cars are used by the rich and powerful with the same affect (Muhammed, 2018). It is obviously and can help with emotions like security and safety. However due to its heavy and absent nature, it can be oppressing, cold and menacing (Wright, 2018).

Section 2 immediately showed personal transportation is still sought after. However, attitudes are changing and the likes of car sharing, and co-ownership are becoming more popular. This leads me to a mix of the two. Co-ownership etc. would also make personal vehicles more affordable allowing people who couldn't otherwise afford it travel in their own personal vehicles. This would also reduce the number of vehicles on roads, improving traffic and having less impact on the environment. Making vehicles as sustainable as possible would improve perception and make them more likely to use personal vehicles.

Section 2 also shows that we need to make cars more accessible and inviting for people with a history of mental illness. We can do this by focusing on including design features that make these people happy – particularly connecting to nature. This means including windows etc. and having little environmental impact. To make all users happy I confirmed I should include features that help give people all of the following: people and company, chemicals (food, drink etc.), activities (sport, hobbies etc.), physical objects and relaxation.

Section 3 gave more details on how to help mentally vulnerable people. The expert I interviewed helped construct the following outline for designing a happy car: 2 seats in a comfortable space where communication is as easy as possible, and you can enjoy the world around you.

Section 4 further reinforces the need to have features that make people happy, using themes previously discussed – and it particularly emphasised the friendly, sociable environment. It also shows how important colour choice and balance is. This means I will avoid too much black, deep purple and white, but I can use small bits of red and pink to enhance emotions. Yellows, oranges and blues can uplift moods and greens, blues, greys and browns create a good stable base. I can also use ideas like asymmetry to create a friendly and less formal environment.

This information leads me to my *Initial Specification* which I will use to define my design direction. It will outline the requirements of my design.

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Jones D. (2018) *Symmetry and Asymmetry for a Beautiful Landscape* [online] Alderwood. Available: <https://alderwoodlandscaping.com/blog/symmetry-and-asymmetry-for-a-beautiful-landscape/> Last accessed: 27th Sep 2019
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Loria K. (2017) *Science says happier people have these 9 things in common* [online] Independent.co.uk. Available: <https://www.independent.co.uk/life-style/health-and-families/happiness-behaviours-characteristics-science-relationships-kindness-a7843631.html> Last accessed 7th Sep 2019

Orange encourages playfulness and social interaction, helping with feelings of comfort and warmth. It isn't particularly serious hence it's used more for children's products – like the Nickelodeon TV channel (Muhammed, 2018). This can also help physical comfort, though too much causes frustration and immaturity (Wright, 2018).

Pink is stereotypically associated with femininity, love and passion. Lighter, delicate shades tend to be more feminine while darker, brighter shades are more love and sexuality – Victoria's Secret use this well (Muhammed, 2018). With too much the sexuality and tranquillity are replaced by inhibition, emotional claustrophobia, emasculation and weakness (Wright, 2018).

Purple, like black, gives off quality, luxury and royalty. Quality Streets chocolate use this as do the most expensive purple properties in Monopoly (Muhammed, 2018). Purple is the colour of spirituality, triggering awareness, vision and trust. However, it can also signify introversion, suppression and inferiority (Wright, 2018).

Red, like darker pink, signifies passion, with excitement and power. Valentine's Day always has a very red and pink theme; and brands like Coca-Cola and Christian Louboutin use it very successfully (Muhammed, 2018). The power of red can trigger fight or flight; survival and bravery. It can overpower though being too defiant, aggressive and bright (Wright, 2018). Red is so powerful it can cause physical responses like increases in heart rate and metabolism (Cao, 2018).

Green often represents nature and universality and brands like Starbucks use it for an eco-friendly image. Too much can cause association with envy and disgust – like the incredible hulk (Muhammed, 2018). Nature and green are harmonious, peaceful, balanced and refreshing. However too much can be boring and bland (Wright, 2018).

Grey well balanced and neutral and psychologically it is the same. While sometimes this is good, it can build up increasing depression with a lack of confidence and energy (Wright, 2018).

White is viewed as clean and hygienic, and comes across pure, clean, simple and sophisticated. However, because of this it can seem too sterile, cold, unfriendly and elitist.

Brown is natural and earthy, giving off a sense of seriousness, warmth, reliability and support. It can seem very unsophisticated, heavy and not very humorous (Wright, 2018).

Therefore, we know all colours can have positive effects, but they have drawbacks too – the balance is very important. I can use the likes of yellow, orange and blue to encourage interaction and improve mood, but not so much they cause negative moods. Browns and blues can create a friendly, yet neutral atmosphere with small additions of pinks and reds to uplift moods. Avoiding blacks and deep purples would avoid their overbearing, sophisticated connotations – the same with white and its clinical feel.

Along the same lines of not being too prestige and formal, the idea of not being particularly uniform – rather a little wonky and asymmetrical to make it seem a bit more friendly – it creates a more relaxing environment (Jones, 2018).

5) Summary

What I have learnt from this research and how it informs my design decisions via my Initial Specification.

The first thing I can apply are the five different categories that make people happy (section 1). People and company are easy – the design will be focused on putting two people together in a comfy environment. Chemical causes of happiness (including food, drink etc.) can be encouraged by allowing access to what their needs on the move (e.g. fridge). While some activities can't be completed while travelling – stuff like sports, making a vehicle capable of carry equipment (like bikes etc.) and giving passengers somewhere to play etc. allows people to complete their favoured activities with ease. Physical objects are harder to include – as everyone wants different things. But allowing room and not being overpriced allows people choice when it comes to their spending. And while relaxation can't be forced, an environment that encourages it and allows customisation helps.

Muhammed F. (2018) *Ultimate Guide to Color Psychology* [online] Insipage. Available: <https://insipage.com/blog/ultimate-guide-to-color-psychology> Last accessed 8th Sep 2019
Weigand M. (2017) *The Science of Happiness: What Actually Makes Us Happy?* [online] Medium.com. Available: <https://medium.com/@MaxWeigand/the-science-of-happiness-what-actually-makes-us-happy-78edcc5bdd58> Last accessed 7th Sep 2019
Wright A. (2018) *Psychological Properties Of Colours* [online] Colour Affects. Available: <http://www.colour-affects.co.uk/psychological-properties-of-colour> Last accessed: 8th Sep 2019

Appendix 1

This appendix contains data collected from primary sources

Music	Outdoors
Sport	Relaxation
Other people	Complaining
Sleeping	Eating
Drinking	Drugs
Shouting	Talking
Sex	Watching Screens
Notoriety	Laughing
Making other people laugh	Quiet
Travelling	Doing nothing
Being busy	Danger
Fear	Adrenaline
Pain	Risk
Winning	Making others happy
Art	Reading

Figure 1.1 List of what I think makes people happy from my thoughts on others' happiness

1. Do you drive regularly?	Yes	No
Total	62	15
Percentage	80.5	19.5

Figure 1.2 Results of Q1 in Questionnaire 3a showing whether people drive regularly



Figure 1.3 Graph using results in figure 1.2

2. Do you own a car?	Yes	No
Total	55	22
Percentage	71.4	28.6

Figure 1.4 Results of Q2 in Questionnaire 3a showing how many people own cars



Figure 1.5 Graph using results in figure 1.4

3. Would you be interested in car sharing?	Yes	No
Total	39	38
Percentage	50.6	49.4

Figure 1.6 Results of Q3 in Questionnaire 3a showing how many people are interested in car sharing



Figure 1.7 Graph using results in figure 1.6

4. Have you any history of mental illness?	Yes	No
Total	11	66
Percentage	14.3	85.7

Figure 1.8 Results of Q4 in Questionnaire 3a showing how many people have a history of mental illness

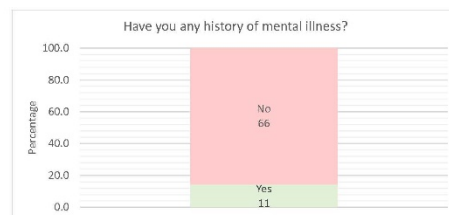


Figure 1.9 Graph using results in figure 1.8

5. Name one thing that makes you happy	Friends/family	Sport	Hobbies	Nature	Travel
Total	16	15	11	11	7
Percentage	20.8	19.5	14.3	14.3	9.1

Food/drink/drugs	Money	Relaxing	Life	Sex
6	4	3	3	1
7.8	5.2	3.9	3.9	1.3

Figure 1.10 Results of Q5 in Questionnaire 3a showing what makes people happy

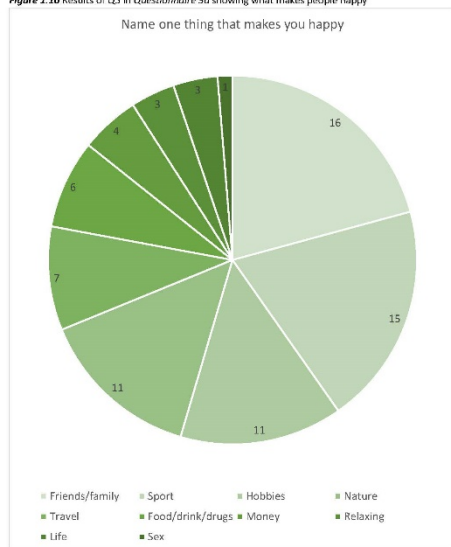


Figure 1.11 Chart using results in figure 1.10

2. Do you own a car?	Yes	No
Total	53	9
Percentage	85.5	14.5

Figure 1.12 Results of Q2 in Questionnaire 3a for those who drive regularly (yes for Q1) showing whether regular drivers own a car



Figure 1.13 Graph using results in figure 1.12

2. Do you own a car?	Yes	No
Total	2	13
Percentage	13.3	86.7

Figure 1.14 Results of Q2 in Questionnaire 3a for those who don't drive regularly (no for Q1) showing whether non-regular drivers own a car



Figure 1.15 Graph using results in figure 1.14

3. Would you be interested in car sharing?	Yes	No
Total	28	34
Percentage	45.2	54.8

Figure 1.16 Results of Q3 in Questionnaire 3a for those who drive regularly (yes for Q1) showing whether regular drivers would be interested in car sharing

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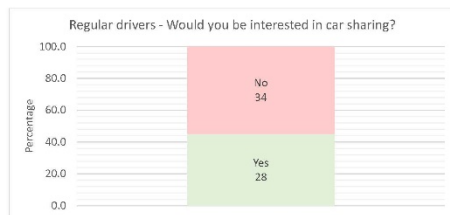


Figure 1.17 Graph using results in figure 1.16

3. Would you be interested in car sharing?	Yes	No
Total	11	4
Percentage	73.3	26.7

Figure 1.18 Results of Q3 in Questionnaire 3a for those who don't drive regularly (no for Q1) showing whether non-regular drivers would be interested in car sharing

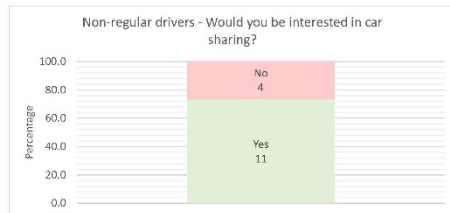


Figure 1.19 Graph using results in figure 1.18

4. Have you any history of mental illness?	Yes	No
Total	8	54
Percentage	12.9	87.1

Figure 1.20 Results of Q4 in Questionnaire 3a for those who drive regularly (yes for Q1) showing whether regular drivers have any history of mental illness

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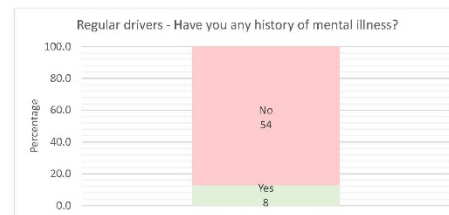


Figure 1.21 Graph using results in figure 1.20

4. Have you any history of mental illness?	Yes	No
Total	3	12
Percentage	20.0	80.0

Figure 1.22 Results of Q4 in Questionnaire 3a for those who don't drive regularly (no for Q1) showing whether non-regular drivers have any history of mental illness

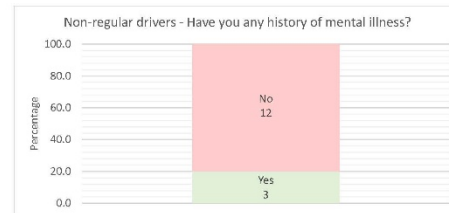


Figure 1.23 Graph using results in figure 1.22

5. Name one thing that makes you happy	Friends/Family	Sport	Hobbies	Nature	Travel
Total	12	12	8	11	7
Percentage	19.4	19.4	12.9	17.7	11.3

Food/drink/drugs	Money	Relaxing	Life	Sex
3	4	2	2	1
4.8	6.5	3.2	3.2	1.6

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Figure 1.24 Results of Q5 in Questionnaire 3a for those who drive regularly (yes for Q1) showing what makes regular drivers happy

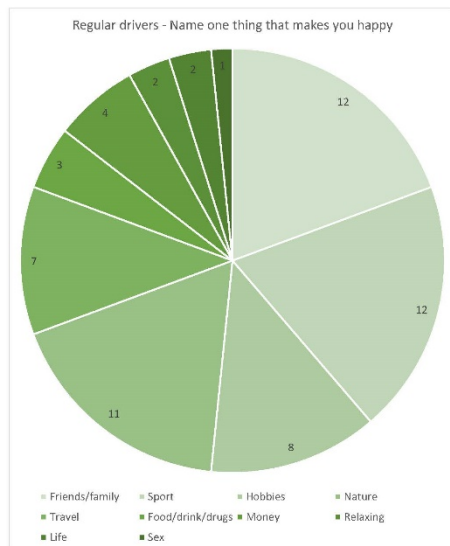


Figure 1.25 Chart using results in figure 1.24

5. Name one thing that makes you happy	Friends/family	Sport	Hobbies	Nature	Travel
Total	4	3	3	0	0
Percentage	26.7	20.0	20.0	0.0	0.0

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Food/drink/drugs	Money	Relaxing	Life	Sex
3	0	1	1	0
20.0	0.0	6.7	6.7	0.0

Figure 1.26 Results of Q5 in Questionnaire 3a for those who don't drive regularly (no for Q1) showing what makes non-regular drivers happy

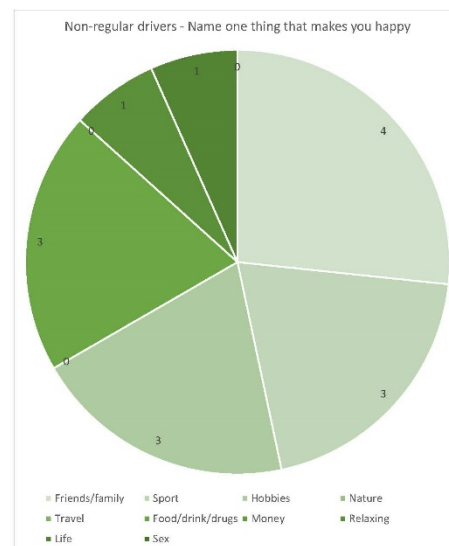


Figure 1.27 Chart using results in figure 1.26

3. Would you be interested in car sharing?	Yes	No
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Total	26	29
Percentage	47.3	52.7

Figure 1.28 Results of Q3 in Questionnaire 3a for those who own cars (yes for Q2) showing whether car owners would be interested in car sharing

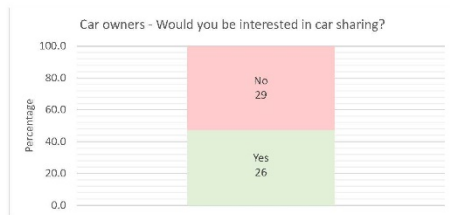


Figure 1.29 Graph using results in figure 1.28

3. Would you be interested in car sharing?	Yes	No
Total	13	9
Percentage	59.1	40.9

Figure 1.30 Results of Q3 in Questionnaire 3a for those who don't own cars (no for Q2) showing whether non-car owners would be interested in car sharing



Figure 1.31 Graph using results in figure 1.30

5. Name one thing that makes you happy	Friends/family	Sport	Hobbies	Nature	Travel
Total	11	12	8	9	6

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Percentage	20.0	21.8	14.5	16.4	10.9
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Food/drink/drugs	Money	Relaxing	Life	Sex
2	3	2	1	1
3.6	5.5	3.6	1.8	1.8

Figure 1.32 Results of Q5 in Questionnaire 3a for those who own cars (yes for Q1) showing what makes car owners happy

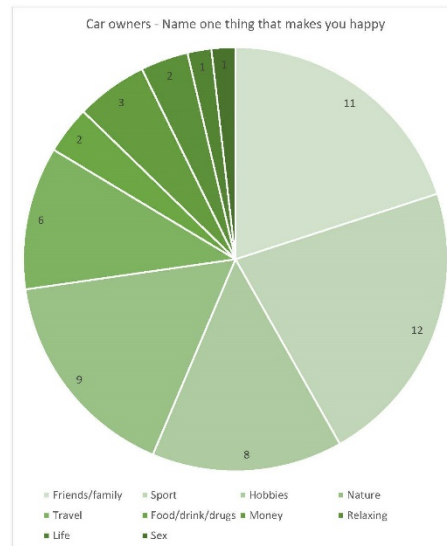


Figure 1.33 Chart using results in figure 1.32

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5. Name one thing that makes you happy	Friends/family	Sport	Hobbies	Nature	Travel
Total	5	3	3	2	1
Percentage	22.7	13.6	13.6	9.1	4.5

Food/drink/drugs	Money	Relaxing	Life	Sex
4	1	1	2	0
18.2	4.5	4.5	9.1	0.0

Figure 1.34 Results of Q5 in Questionnaire 3a for those who don't own cars (no for Q1) showing what makes non-car owners happy

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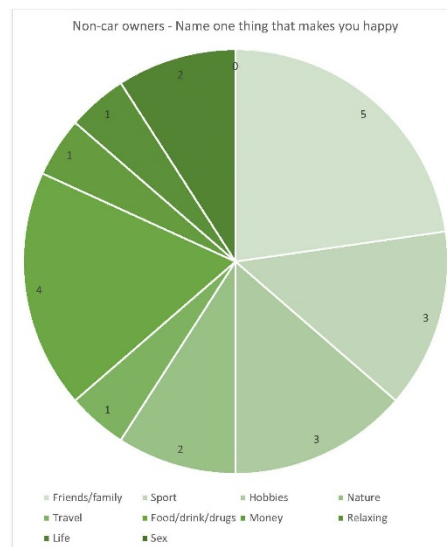


Figure 1.35 Chart using results in figure 1.34

1. Do you drive regularly?	Yes	No
Total	8	3
Percentage	72.7	27.3

Figure 1.36 Results of Q1 in Questionnaire 3a for those who have experience mental illness (yes for Q4) showing whether people with a history of mental illness drive regularly

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Figure 1.37 Graph using results in figure 1.36

2. Do you own a car?	Yes	No
Total	7	4
Percentage	53.5	36.4

Figure 1.38 Results of Q2 in Questionnaire 3a for those who have experience mental illness (yes for Q4) showing whether people with a history of mental illness own cars



Figure 1.39 Graph using results in figure 1.38

3. Would you be interested in car sharing?	Yes	No
Total	5	5
Percentage	54.5	45.5

Figure 1.40 Results of Q3 in Questionnaire 3a for those who have experience mental illness (yes for Q4) showing whether people with a history of mental illness would be interested in car sharing

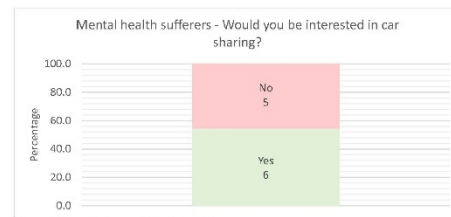


Figure 1.41 Graph using results in figure 1.40

5. Name one thing that makes you happy	Friends/family	Sport	Hobbies	Nature	Travel
Total	1	1	0	4	0
Percentage	9.1	9.1	0.0	36.4	0.0

Figure 1.42 Results of Q5 in Questionnaire 3a for those who have experience mental illness (yes for Q4) showing what makes people with a history of mental illness happy

Food/drink/drugs	Money	Relaxing	Life	Sex
1	1	1	1	1
9.1	9.1	9.1	9.1	9.1

Figure 1.42 Results of Q5 in Questionnaire 3a for those who have experience mental illness (yes for Q4) showing what makes people with a history of mental illness happy

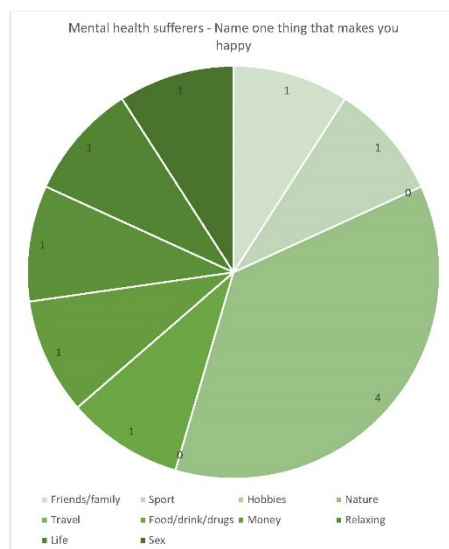


Figure 1.43 Chart using results in figure 1.42

Appendix 2

This appendix contains data collected from secondary sources

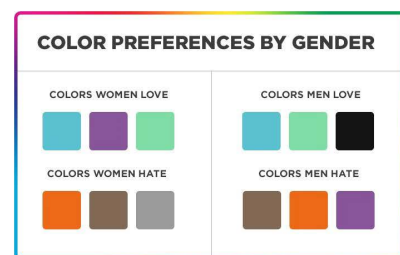


Figure 2.1 Colours loved and hated according to gender (Muhammed, 2018)



Figure 2.2 Colours and examples of what people connect with them (Muhammed, 2018)

Figure 6 My Research Summary document