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Partner-Up: Peer-mentoring mHealth app

Project submitted to Universidade Católica Portuguesa
to obtain a master's degree in Communication Studies -
Communication, Marketing e Advertising

By

Mariana Ferreira de Castro e Vasconcelos

Faculty of Human Sciences

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Under the advisory of Prof. Patrícia Dias

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Abstract

Partner-Up is a project that aims to offer young struggling teens free counselling through a peer-mentorship mHealth app. The app has two users: the mentees, young teens with some mental issues or distress, and mentors, Psychology Undergrad finalists and students from the master's Degree in the Psychology of Well-being and Health Promotion at FCH – Universidade Católica Portuguesa.

Partner-Up offers an in-built chat and phone/video call experience, a self-reflection feature where mentees reflect on their emotions, and a community forum that allows mentees and mentors to share thoughts, accomplishments or simply funny stories and interact via comments and likes. The app grants a personalised experience, as it matches the mentee with a mentor of their gender preference that can relate to and understand their issue. The app contributes to a mutual benefit between mentees and mentors, as mentees gain an approachable mentor to guide them through their mental health journey. Mentors can participate in a volunteer experience, enrich their curriculums and practice their training.

The project includes the development of a prototype for Partner-Up, and a communication campaign to introduce the app to the market. These are backed up by market research, a straightforward business plan to determine the idea's viability, and a marketing strategy. The marketing and communication plan combines print, digital advertising, sponsorship and collaboration. During the first three months of the app's introduction, the print will be used for awareness and recruitment in schools, targeting mentees, and at Universidade Católica Portuguesa, targeting mentors. The digital strategy is based on the brand's Instagram profile, with engaging and fun posts and partnerships with three influencers working as brand ambassadors. Sponsorship of a mental health festival and a collaboration with mental health awareness clothing brand.

Keywords: mHealth App, Mentoring, Youth, Psychology students, Digital Marketing, Business Concept

Resumo

O Partner-Up é um projeto que oferece aconselhamento gratuito a jovens adolescentes com dificuldades por meio de uma aplicação de mHealth. A app tem dois utilizadores: os mentorados, jovens adolescentes com algum tipo de perturbação ou sofrimento mental, e os mentores, finalistas da Licenciatura em Psicologia e alunos do Mestrado em Psicologia do Bem-Estar e Promoção da Saúde da FCH – Universidade Católica Portuguesa.

O Partner-Up oferece uma experiência integrada de chat e telefone/videochamada, um recurso de autorreflexão onde os mentorados refletem sobre suas emoções e um fórum que permite que mentorados e mentores compartilhem pensamentos, realizações ou simplesmente histórias engraçadas interagindo via comentários e gostos. A aplicação oferece uma experiência personalizada. O aplicativo contribui para um benefício mútuo entre mentorados e mentores, pois os mentorados ganham um mentor acessível para orientá-los e os mentores podem participar de uma experiência de voluntariado, enriquecer seus currículos e colocar em prática a sua formação.

O projeto inclui o desenvolvimento de um protótipo e uma campanha de comunicação para apresentar a aplicação ao mercado. Estes são apoiados por uma pesquisa de mercado, um plano de negócios que determina a viabilidade da ideia e uma estratégia de marketing. O plano de marketing e comunicação combina elementos impressos, patrocínio, publicidade digital e colaboração. Durante os primeiros três meses de introdução da aplicação, cartazes vão ser utilizados para sensibilização e recrutamento nas escolas, dirigidas aos mentorandos, e na Universidade Católica Portuguesa, junto dos mentores. A estratégia digital é baseada no perfil da marca no Instagram, com publicações jovens e parcerias com três influenciadores que atuam como embaixadores da marca, patrocínio de um festival de saúde mental e uma colaboração com a marca de roupas de conscientização sobre saúde mental.

Palavras-chave: mHealth, Mentoria, Jovens, Estudantes de Psicologia, Marketing Digital, Conceito de Negócio

Introduction

This project aims to provide free youth mental health council through a peer-mentoring strategy and the convenience of a mobile app. The literature review starts by explaining the origin and definition of peer mentoring programs, the difference between mentoring and tutoring and how peer mentoring evolves and cross-age peer mentoring is developed. Also, how different existing theories support this practice and how mentor and mentees relationship is shaped by age, environment and guidance. Finally, it showcases examples of mental health-related peer-mentoring programs.

Since this project focus on youth mental health, an issue that has become more aggravated since the COVID-19 pandemic, the next chapter focus on this matter. We start by contextualising the COVID-19 pandemic, followed by how the pandemic and all of the social changes impacted youth mental health. As Partner-Up focuses on youth mental health, we review how mandatory confinement, social isolation, parent stress, and loss of routine, among other variables, have impacted youth. This app will operate in the Portuguese market, so it was important to demonstrate how the pandemic affected the Portuguese youth. Several studies were showcased, international and national, and examples of how online peer support was used to help people suffering from mental health in a pandemic. Additionally, Partner-Up being a mental health app, include research on what consists of a mHealth app, its importance during the COVID-19 pandemic and how they are used in mentoring mental health-related programs.

To develop this project, we used the Kanban framework to keep the project development organised and for the prototype development and testing. This framework was chosen for its flexibility. It employs a Kanban board with columns for each phase and lines for the job. The fundamental idea behind the structure is capacity. Each card represents a task and can only move forward in the contrition line if the previous task can be finished satisfactorily.

As mentioned earlier, Partner-Up is a mHealth mobile app with two users: the mentors (volunteer university students) and the mentees (young teens). The mentees that register for the app go through a form where they list their current issues, personal information

and mentor gender preference. Afterwards, they move on to a personalised homepage, with access to the Daily Reflection page, the chatroom with a phone/video call feature, and the community page, where all mentees and mentors can share, comment, and like each other's posts. Mentors also have a personalised homepage, with access to the mentee history of Daily Reflection, the chatroom and the community forum page.

In the business plan, since Partner-Up is a non-profit company that offers peer-mentoring counsel services for free, we will present Partner-Up will gain the funds and investment that it needs. It will resort to Portuguese government funding powered by the EU and with the partnership from Universidade Católica Portuguesa. Partner-Up will outsource the app development in Y0 and hire a Team Leader to coordinate the student mentors supporting them through the program.

The Marketing and Communication Plan, the final element of the project, explains Partner-Up's positioning in the market and how the first year of activity will play out in terms of Marketing and Communication. Partner-Up aims to be a young brand with the concept of making mental health for youth more informal, fun, free and relatable by the mentors' age and personal experiences. Through the brand's Instagram profile, the strategy has a strong digital marketing presence with three brand ambassadors. Also, it will collaborate and sponsor a mental health clothing brand and festival, associating the brand with an already established mental health advocate brand and event.

The project's potential resides in offering free counselling to youth provided by volunteer psychology students. In the benchmark research, a similar company was not found that provided the same benefits to both the mentee and mentor. Mentees are getting the help and counsel they need, and students are helping young teens by practising what they have learnt and are passionate about.

Part I – Theoretical Framework

Chapter 1: Cross-age Peer Mentoring

1.1. Cross-age Peer Mentoring

Peer mentoring is defined in a wide variety of ways in the young mentoring literature. Searches for the term in the literature on Google Scholar and academic research databases result in hundreds of references to peer mentoring, peer counselling, and same-age peer programs in corporations and schools (Karcher, 2007). These terms include mentoring, tutoring, aided learning, coaching, and sponsorship. One of the primary challenges with such broad-reaching words is that they are frequently confused or used interchangeably. Additionally, while the variety of terminology employed may reflect the concept's complexity, the resulting lack of clarity contributes to misunderstanding and disagreement (D'Abate et al., 2003). Indeed, while contemplating conventional mentoring, it is critical to remember that mentors are typically more senior than mentees (Gulam & Zulfiqar, 1998). Clutterbuck (1991) discusses this approach, arguing that, traditionally, a mentor is viewed as an older, more experienced individual imparting knowledge about how to perform work to a younger, less experienced colleague. Joyce et al. (1997, p. 2) discuss the hierarchical nature of mentoring, arguing that it is "an intense interpersonal exchange between a more experienced senior colleague (mentor) and a less experienced junior colleague (protégé) in which the mentor provides support, direction, and feedback regarding career plans and personal development."

Meggison (1994 p. 56), while discussing the helping element of the mentoring relationship, describes a mentor as a "person who helps another individual to address the major transitions or thresholds that the individual is facing and to deal with them in a developmental way" (p 165). Similarly, Burlew (1991) recognises the value of the mentee's assistance, stating, "A mentor is anyone who provides guidance, support, knowledge, and opportunities for whatever period the mentor and protégé deem this help to be necessary" (p. 214). Burlew's approach draws on Pedler's (1983) work, in which he coined the term "critical friend" to describe what is undoubtedly the core of the mentoring relationship.

Topping (2005) provides a clear definition of peer mentoring by arguing that "Peer mentoring is typically conducted between people of equal status" (p. 321). This concept departs from the conventional understanding of mentoring by implying that peer mentoring occurs between equals rather than between senior, more experienced people and a less experienced, frequently younger individual. Blackwell & McClean (1996) also emphasise the relevance of equality in peer mentoring relationships, arguing that "the more interactive and collaborative the approach of the mentor, and to a lesser extent the mentee, the more likely the pairs are to view themselves as peers" (p. 36).

Mentoring relationships can also be informal or natural mentoring relationships that develop between caring, non-parent adults and younger mentees. They can also be official mentoring relationships that develop when youth and mentors participate in programs and are matched by program staff (Dubois & Silverthorn, 2005). Natural mentoring relationships develop spontaneously, inside established social networks, rather than through a systematic matching scheme, and are typically more intimate and long-lasting. Around half of all informal mentors are family members (siblings, aunts, uncles, and grandparents), and a quarter are teachers or guidance counsellors. Coaches, religious leaders, employers, neighbours, and friends' parents are all examples of informal mentors (Dubois & Silverthorn, 2005). According to research, informal mentors can assist youth with a variety of activities, including emotional support, advocacy, social networking, advice-giving, material and financial support, friendship, and role modelling (Dubois & Silverthorn, 2005; Miranda-Chan et al., 2016). Regrettably, changing marriage patterns, community breakdown, overcrowded schools, and rising residential and educational isolation have deprived many youths, particularly those with low socioeconomic levels, of access to informal mentors.

Another way to distinguish between various types of mentoring is to examine multiple mentoring styles (i.e., individual differences in realising mentoring relationships; Leidenfrost et al., 2011). Langhout et al. (2004) investigated the various levels of support, structure, and activity in mentoring relationships and identified four distinct mentoring styles in a traditional juvenile mentoring environment. Mentors with a modest level of training and design were supportive on a conditional basis. Unconditionally supportive mentors received the highest amount of assistance. Active mentors provided the most activities but minimal structure. Low-key mentors provided minor action but still offered

significant support. Langhout et al. (2004) discovered that mentees generally benefited from moderate mentoring relationships with a conditional quantity of assistance and a modest level of activities. Leidenfrost et al. (2011) studied the amount and quality of online mentoring engagements and questioned mentees about their mentor, whom they had met numerous times in person. In a higher education setting, they discovered three distinct peer mentoring strategies. Master mentoring that was encouraging was characterised by a high level of dedication to online mentoring activities and a high volume of motivating communications to mentees. Informatory standard mentors performed well in online mentoring tasks, although their messages were lengthy. Negative minimalism mentoring was a high proportion of negative online mentoring actions, such as providing erroneous responses to queries or disregarding messages. Concerning mentees' academic performance, Leidenfrost et al. (2011) discovered that motivating master mentoring positively affected mentees' success in a peer mentoring program (which included elements of an academic skills course) among those mentees who were initially classified as poor academic performers.

To fully define peer mentoring, a distinction must be made between tutoring and mentoring, which may be made by examining each's objectives. Tutoring is the interactive, intentional, and methodical support provided to others' learning by individuals who are not certified, teachers. It is typically carried out in pairs, one-to-one. Parents, other adult caregivers, siblings, other family members, students from the peer group, and a variety of volunteers can all be tutors (Cohen et al., 1982). Effective tutoring skills can be learned by youth as early as five. Everyone can tutor others and provide assistance to others. In the process of teaching others, tutors frequently gain new knowledge. Tutoring dates back a long time. It was widespread in Classical Greece and Rome and had been documented in earlier writings. Its popularity has fluctuated over the years, but it has never vanished. It is not necessary for tutors to be "experts" in the subject matter or skill they are teaching. But it is usually ideal if they are a little more knowledgeable than their students. (In this publication, the learner who receives tutoring will be referred to as a "tutee"). However, if the tutors are significantly more experienced than the tutees, they could get bored with the material the tutee has to master and not learn very much. No extra resources are required for tutoring. Tutors should avoid attempting to mimic what they believe a trained teacher may do because they lack the necessary background knowledge. Tutors shouldn't only encourage, assist, or "scaffold" the tutee to

the "correct" response. Additionally, they should expand and refute the tutee's preconceived notions. There can be more than one "correct" answer (Bloom, 1984; Cohen et al., 1982).

While tutoring may occur during mentoring, as long as the relationship and the youth's development are prioritised, the association is a mentoring one. Mentoring is a dyadic psychosocial intervention in which a more experienced or knowledgeable individual is paired with a less knowledgeable individual to provide support and advice (Karcher, Nakkula, & Harris, 2005).

However, the mentoring research reveals two distinct forms of instructional or goal-oriented mentoring that blur the distinction between tutoring and mentoring (Karcher, 2007). The duration of peer programs is a second distinction. The majority of peer counselling, education, tutoring, and assistance interactions are brief, lasting either a few meetings or the duration of a project or curriculum sequence (e.g., six-ten meetings). Peer mentoring programs often run the entire school year or beyond, with weekly meetings occurring 20-40 times yearly (Karcher, 2007). A third distinction is made between reparative, remedial, and problem-focused interventions. These programs' developmental, friendship-building, and character-building nature is incompatible with goal-oriented activities primarily intended to increase academic abilities (tutoring), resolve interpersonal conflicts (peer education; peer assistance), or address personal concerns (tutoring; counselling). While these subjects may come up in conversation, mentors do not approach the relationship with such restricted objectives (Karcher, 2007). A fourth critical distinction is whether the program is cross-generational in character. The most frequently accepted definition of a mentor is "an older, more experienced adult (...) [who] gives continual direction, training, and encouragement targeted at building the protégé's competence and character" (Rhodes, 2002, p. 3). The mentor is clearly described as an adult in this description. Thus, at the very least, an adolescent should be considered an "older and wiser" mentor. While it may seem self-evident to require peer mentors to be cross-age, a quick search for peer mentoring turns up several references to organisations that organise relationships between same-age peers, often in college (Karcher, 2007).

In sum, since most mentoring and some peer mentoring programs involve same-age participants, Kracher (2013) adds the adjective cross-age to peer mentoring to clarify the age difference between the mentor and mentee. As a result, cross-age peer mentoring can be defined as a peer mentoring program that requires a mentor who is at least two years older than the child being mentored (e.g., "older and wiser") meeting regularly, typically weekly, for an extended, consistent period of time lasting at least ten times (ideally 20 or more). They engage in conversations, games, or curricular activities (that do not directly or exclusively teach the mentee's identified skills deficiencies), all of which contribute to developing a close connection in which the mentee receives empathy, praise, and attention (Karcher, 2013).

Due to the separation of youth by grade, there are fewer opportunities for younger and older youth to form natural mentoring relationships that allow older youth to provide guidance and support to younger youth. Outside of sibling relationships and multi-grade extracurricular activities, there are fewer opportunities for younger and older youth to form natural mentoring relationships that allow older youth to provide guidance and support to younger youth. Formal cross-age peer mentorship programs create a structured environment in which these relationships can be formed that benefits both younger and older youth. The age gap is thought to serve a similar function to adult-youth mentoring relationships in that the peer mentor serves as a role model and a source of support and guidance. Due to the age gap, the mentor can be considered "older and wiser," whom the mentee can look up to and appreciate. The prefix "peer" is added in the phrase "cross-age peer mentoring" to indicate that the relationship involves two members of the same generation, distinguishing it from an intergenerational relationship (Karcher, 2005).

Mentoring programs for teenagers are a viable intervention for adolescents, particularly those who are experiencing or at risk of developing a variety of psychological, social, behavioural, and environmental challenges (Burton, 2020). Peer mentoring interventions aim to promote mentees' development through support, guidance, and interventions that promote positive outcomes such as increased school engagement, improved relationships, and the acquisition of attitudes and skills that promote social, academic, psychological, and behavioural well-being (Karcher, 2005). Recent research has revealed several beneficial effects of one-on-one cross-age peer mentoring connections on youth. Mentees

have shown progress in inappropriate behaviour and misconduct, academic abilities and attitudes, and socio-emotional well-being (Karcher & Berger, 2017).

1.2. Supporting Theory

Since its introduction, one of the selling points for cross-age peer mentoring programs has been that the intervention benefits both mentors and mentees (Karcher, 2013). Riessman (1965) proposed the helper therapy principle, which implies that identifiable (and thus testable) processes may cause those who give support services to benefit just as much as those who receive them. Several of these mechanisms of change in attitudes and behaviour are the result of being assigned a role in which one is "doing something worthwhile by assisting someone in need" (p. 30), engaging in "self-persuasion through the persuasion of others" (p. 30) and experiencing the sense of importance and status associated with the role of helper. Additionally, Riessman says that "some youngsters learn intellectually not through being challenged by someone ahead of them, but through assisting someone behind them, through being assigned the tutor-assistant role" (p. 29). Additionally, Riessman suggests that the helper frequently "becomes more efficient, motivated, and advances to a new level of assisting ability" (p. 28) and becomes more receptive to "the idea of embarking on a teaching profession" (p. 29). Thus, selecting mentors who are already inclined toward employment in the helping professions may encourage the development of such benefits and career-congruent skills (Karcher, 2013).

Vygotsky's (1978) theory of development, the zone of proximal development, also supports the case for cross-age peer mentoring by stating that youth can attain a higher level of skill development and perform more complex cognitive, behavioural, and emotional tasks when working with or under the guidance of those older than themselves. Youth participation in group activities and meaningful dialogues with more sophisticated thinkers serves as a scaffold for cognitive skill development (Rogoff, 1990). Frequently, this concept is examined in terms of the effect of adult-youth interactions on youth learning and development. Vygotsky's approach, however, emphasizes the benefits that adolescents acquire from connection with older peers, who can serve as role models and mentors and to whom youth can look up as they practice new roles and abilities. Similarly, other academics emphasise the critical role of peers in children's development, suggesting that peers are a critical influence on youth social and cultural development. Similarly,

other academics emphasize the critical role of peers in children's development, suggesting that peers are a critical influence on youth social and cultural development.

Finally, Harris' (1995) group socialisation theory suggests that children identify with a peer group and adapt their behaviour to fit in with the behavioural norms of the group. Further, peer groups distinguish themselves from other groups, assume different forms, and perceive themselves as similar to their ingroup and different from members of outgroups. Harris points to various developmental (e.g. academic and behavioural), personality, and cultural outcomes resulting from children's identification with and participation in certain peer groups. Harris argues that, while adults influence children's opportunities and contexts, they are less influential than peers because of children's desire to be like the older youth – to speak, act, and look like them. She posits that youth do not have the same relationship with adults and adopt the style, speech, and behaviour that explicitly distinguishes them from adults. These factors make older peers powerful influencers on youth development (Harris, 1998). Her conclusion – that children's development is significantly impacted by their membership in and identification with a social group – points to the importance of peer influence and the potential to capitalize on this influence to promote positive youth outcomes (Harris, 1998).

Kohut and Wolf (1978) provide a model of psychosocial development based on self-psychology to explain how mentoring relationships can promote beneficial youth outcomes. When contextualised within the framework of cross-age peer mentorship, their concept may help explain heterogeneity in youth outcomes. Practical, transformative mentorship gives mentees two separate sets of experiences from a self-psychology perspective. The first experience is related to the intimacy of the mentoring relationship: mentors attend to mentees' needs through empathetic understanding and praise, which results in higher mentee views of social assistance from their mentor. These boosts in social support result in increased self-esteem and positive behaviours in mentees. The second experience relates to the mentoring relationship's structure, which contributes to the mentor's idealisation: mentors who consistently show up, are realistic about mentee goals and expectations, and structure positive discussions and activities will earn the respect, value, and admiration of their mentees. As a result, mentees will develop a stronger bond with other authority figures (parents and teachers), improved interpersonal skills, and increased confidence and academic success. The expectation that positive

mentoring relationships can improve youths' other relationships is primarily based on attachment theory, which postulates that children develop cognitive representations of relationships through early interactions with caregivers, influencing their interpersonal behaviour (Bowlby, 1988). While these attachment working models remain relatively stable over time, they may adapt to changes such as participation in supportive relationships (Belsky & Cassidy, 1994; Santrock, 2019). This self-psychology model and the two actual experiences it encompasses may help explain the difference in peer mentoring program outcomes across ages. Kohut and Wolf (1978) emphasise the critical necessity of the mentee to receive empathy, appreciation, and attention, as well as a consistent and positively structured connection that causes them to identify with the mentor as an idealised authority figure.

1.3. Mentee's and Mentor's Relationship

The presence of a mentor in a young person's life promotes healthy growth and development and acts as a protective buffer against the numerous threats that today's children experience (Portwood et al., 2005). Mentors aid children in overcoming personal and social barriers, introducing them to new relationships and possibilities, and fostering the development of decision-making and problem-solving abilities (Portwood et al., 2005).

The critical outcomes for which changes have been documented in the literature on cross-age peer mentoring are congruent with findings from school-based adult-with-youth mentoring programs (Portwood et al., 2005). These factors include attitudes toward and connectedness with school and peers (Karcher, 2005a; Bowman & Myrick, 1987; Stoltz, 2005), self-efficacy (Stoltz, 2005; Tomlin, 1994), grades or academic achievement (Karcher, Davis, & Powell, 2002; Stoltz, 2005; Tomlin, 1994; Westerman, 2002), social skills (Karcher, 2005), and behaviour problems (Bowman & Myrick (Sheehan, DiCara, LeBailly, & Christoffel, 1999). (Karcher, 2007). Peer interventions have been shown to enhance drug use prevention (Black, Tobler, & Sciacca, 2009), violent and antisocial behaviour (Gibbs et al., 1996), peer counselling (Hamburg & Varenhorst, 1972), and peer tutoring (Hofstadter-Duke & Daly, 2011).

Indeed, some suggest that peers have a more significant influence on adolescent socialisation than adults. According to Harris (1998), elder peers can likewise exert considerable influence. Harris says that adults have less impact on younger children than on older peers since the objective of development is "wanting to be like the bigger kid." (p. 80). It is because of the child's equating maturity with the prestige that younger youngsters desire to behave like their older peers (p. 267). The advantage of teen mentoring over regular adult-led groups is the increased learning and support for behavioural change that result from the perceived social support and psychological safety fostered by young mentors (Keller & Pryce, 2010). Older siblings can offer support and empathy to more youthful siblings by providing a space for discussion of family and other difficulties and critical modelling abilities like perspective-taking and empathic understanding (Brody et al., 2003; Tucker et al., 2001; Howe & Ross, 1990).

Adolescents may be more likely than adults to identify with and look up to older peers, as younger youth already look to the older child for instruction on speaking, acting, and dressing (Harris, 1998). Youth are not seeking adulthood's prestige and maturity; instead, they look to older youth as role models to emulate and ultimately become. Additionally, while adults have power based on their age and position, older youth provide psychological security and a social network for younger youth (Smith, 2011). When younger youth are paired with older peer mentors capable of empathising and perspective-taking, the idealisation of older youth by younger youth may uniquely satisfy Kohut and Wolf's (1978) conditions for effective and transformative mentoring relationships that promote positive youth development. The case for cross-age peer mentors is bolstered further by a phenomenon known as conventionality, which emphasises the importance of conventional and unconventional views and practices among adults and youth in relation to youth behavioural outcomes (Hirschi, 1969; Jessor & Jessor, 1977). Adults prefer to encourage conventional ideas and practices directed toward the future and are governed by adults, such as school. When adolescents construct their behaviours, they frequently do so in defiance of adult traditions. Through older peer modelling and support, cross-age peer mentoring provides a chance to reward prosocial attitudes and behaviours.

Students tend to regard the work as a learning experience and welcome training sessions and supervision. They are highly motivated for such work, and frequently the program affords an opportunity for them to supplement relative courses. The second advantage

refers to college students as therapeutic agents. With its accompanying energy and optimism, their youth can be therapeutic in itself; and with children, students may serve as suitable models for socialisation and identification (Brennen, 1967). When norms come from older peers, they are less likely to face the same level of opposition as when they come from adults. Children seem to enjoy the company of an interested non-demanding adult who will do a thing with them and provide an atmosphere wherein feelings can be shared, and new responses can be risked without penalty. While children and college student companions may relate to each other, the question remains, of course, as to whether these children experience therapeutic gains. The problem of evaluating the effectiveness of students is fraught with the same methodological difficulties inherent in all evaluation studies (Brennen, 1967).

Teen mentors have been found to be just as beneficial as adult mentors in boosting school connectedness in early children (Karcher, Davis, & Powell, 2002). Sheehan, DiCara, LeBailly, and Christoffel (1999) discovered a beneficial influence on the classroom behaviour and attitudes toward risk behaviours of cross-age mentees. Finally, Westerman (2002) discovered that teen mentors assisted younger mentees in achieving higher academic accomplishments in a rural Appalachian location.

Despite peer mentoring's potential for good influence, there are also hazards. One argument against using youth as mentors is that they may not be emotionally or cognitively mature enough to advise younger peers (Burton, 2020). Thus, while programs may wish to recruit adolescents who are more socially engaged to boost retention, such programs may also need to provide substantial assistance to these mentors who may take on too much and get overwhelmed (Karcher, 2007).

High school mentors may become more easily overwhelmed than older mentors, especially when working with children who have behavioural problems. This may be especially so when the mentors approach mentoring with the goal of having fun and spending time with peers (as opposed to having the primary goal of being a helper). In one study, Karcher and Lindwall (2003) found that high school mentors lower on Crandall's Social Interest Scale (SIS) were less likely to continue into a second year. This is consistent with Karcher et al. (2005), who found that mentors high in self-interest (desires for self-enhancement) reported lower relationship quality. Conversely, Karcher

and Lindwall (2003) found that those high in SIS took on those mentees at greater behavioural and academic risk. (Karcher & MENTOR/National Mentoring Partnership, 2007)

One of the most troubling aspects of peer influence is peer contagion, the process through which peers exert mutual influence on one another, impairing emotional and behavioural development (Dishion & Tipsord, 2011). Peer contagion can result in an increase in behavioural problems, such as violence and substance abuse, as well as mental problems, such as depression (Dishion et al. 1995; Dishion et al. 1996; Dishion et al. 1997; Stevens & Prinstein, 2005). Peer contagion can occur naturally as a result of informal peer contacts, or it can develop as a result of organised intervention programs or educational environments. Peer contagion is hypothesised to occur as a result of deviancy training, in which youth respond favourably to stories and suggestions of deviant behaviour from their peers (Dishion & Tipsord, 2011). Psychologists have examined the detrimental impacts of grouping high-risk adolescents in schooling and therapeutic programs (Feldman, 1992; McCord, 2003).

Many of these studies, however, lack rigorous methodology; they rarely employ randomisation and have little statistical power. According to the evidence, certain programs that aggregate youngsters have negative consequences, while others can have a favourable effect on youth (Dishion & Tipsord, 2011). Indeed, meta-analyses of group treatments for adolescents demonstrate that they have a net beneficial effect and that well-supervised activities do not appear to have a net negative impact (Dishion & Tipsord, 2011; Lipsey, 2006) Still, additional study is needed to determine the variables that promote peer contagion and subsequent unfavourable juvenile outcomes.

There is some evidence of peer contagion effects in intergenerational youth mentoring programs. For example, the Buddy System Program sought to reduce teenage crime and arrests among at-risk youth (O'Donnell & Williams, 2013). However, researchers discovered that the program significantly raised post-program arrest rates for youth who had not been arrested prior to the mentoring intervention. They hypothesised that this outcome was the result of friendships created between participants with varying degrees of delinquency risk. They contended that connections developed with previously arrested individuals had a detrimental effect on youth who had not been arrested and that these ties ultimately reinforced criminal activity. This program demonstrates the difficulties

inherent in children interacting across varying degrees of delinquency risk, with mentorship programs having the ability to produce situations conducive to harm rather than gain.

While this peer contagion research did not examine cross-age peer mentoring programs directly, peer contagion may have an effect on these interactions. While mentoring relationships may benefit from being one-on-one, it is critical to explore the effect of peer contagion among mentors and mentees, especially when programs encourage group time for mentors and mentees. Because many youth mentoring programs are located in schools, groups of young mentors may travel together to the program and mentor alongside one another. They may interact in ways that promote connection while unknowingly mirroring the bad attitudes and actions of their younger mentees.

Further study on peer connections reveals that children's attitudes and involvement at school are highly predictive of their peer group and that switching peer groups results in the adoption of the new peer group's attitudes and engagement (Kindermann, 1993). One might imagine the possible benefits and drawbacks of this result, as youth can be influenced by their peer group to adopt more beneficial or detrimental attitudes and behaviours. When adolescents get together and model anti-social behaviours and attitudes, interventions intended to assist the potential prosocial benefits of young influence can occasionally unintentionally foster anti-social attitudes and criminality (Patterson et al., 2000). This demonstrates the critical nature of the group dynamic and attitudes that adolescents bring to a group setting or intervention program, as youth have the ability to mould the environment in a pro- or anti-social way. Fostering an environment that promotes pro-social growth and ensuring that peers rather than adults shape it enables youngsters to learn and be rewarded for social and academic ability.

For instance, a negative linear association between age and peer influence was discovered in approximately 3600 individuals ranging in age from 10 to 30 years (Steinberg and Monahan, 2007). Peer influence dropped steadily over time, notably among 14 to 18 years. Similar findings have been reported previously by Steinberg et al. (1997).

It isn't easy to assess the prevalence of cross-age peer mentorship programs since they are frequently coordinated by school officials and are not linked to external bodies that track and report on their outcomes (Karcher, 2005). Given the developmental stage and

maturity of the adolescents serving as mentors, cross-age peer mentoring programs typically include extensive adult supervision and organisation, including scheduled activities and conversation themes, at times within a broader group environment. This structure enables adolescent mentors' talents and needs to be scaffolded. However, research on the usefulness of high school students as mentors is inconsistent (Herrera et al., 2008; Karcher et al., 2002; Karcher, 2005). Despite this, researchers remain optimistic about the employment of high school mentors in cross-age peer mentoring and emphasise the critical nature of excellent mentor training and ongoing support during the match and the increased structure around mentor-mentee interactions.

1.4. Youth Wellbeing & Peer-Mentoring

Mentoring programs have been shown to be beneficial in managing risk behaviours in youngsters (Karcher, 2008; Smith & Barker, 2009). Numerous mental health problems, including depression, anxiety, drug and alcohol use, suicidal ideation, self-harm, and suicide, have been found to be growing dramatically between adolescence and young adulthood, according to one study (Smith & Holloman, 2013).

There are two widely acknowledged dimensions of mental health: mental illness or ill-health and mental or psychological well-being. Mental illness is defined as a clinically diagnosable illness that encompasses problems affecting emotion, thinking, or behaviour. Depression, anxiety disorders, bipolar disorder, eating disorders, and addictive behaviours are all examples. Mental illness manifests differently in children than it does in adults, manifesting as behavioural and conduct problems such as Attention Deficit Hyperactivity Disorder (ADHD) or Oppositional Defiant Disorder (ODD), as well as emotional difficulties. Environmental or developmental problems (for example, parental conflict) as well as developmental problems (for example, Autistic Spectrum Disorder) may also contribute to the development of these symptoms (Coleman et al., 2017).

Mental well-being is not simply the absence of mental health disorders; it is how people feel about their lives and if their lives are worthwhile. It has been defined as a "dynamic condition in which an individual is capable of realising their potential, working efficiently and creatively, developing strong and positive relationships with others, and contributing

to their community" (Foresight report cited in ONS, 2015, quoted by Coleman et al., 2017).

Poor mental health among adolescents is associated with poor educational outcomes, personal relationships, and engagement in crime and anti-social behaviour, all of which have an effect not just on the individual but also on their families and the larger communities to which they belong. Thus, addressing childhood mental health problems (and cultivating positive mental states) is likely to create the groundwork for improved adult mental health (Coleman et al., 2017).

In research from Stapley et al. (2022), where 377 participants participated in a peer mentoring program in a UK school, the majority of mentees expressed feelings of calmness or decreased anger as a result of their involvement in the program, as well as increased ability to regulate their emotions. Several mentees expressed relief from tension, worry, or fear following their participation, referring to the sensation of having a weight lifted off their shoulders or "getting things off their chest" (p. 34). One mentee stated that they had ceased self-harming after their mentor assisted them in identifying alternative methods of coping with their emotions. A favourable emotional shift, an easier academic life, relationship improvements, having someone there for you ("Mentors are essentially unlooked-for friends"), advice and goals, and a sympathetic source of assistance (Stapley et al., 2022)

In a study conducted by Stapley et al. (2022), cross-age peer mentoring programs delivered in eight secondary schools in the UK were evaluated. The study had 377 participants as mentors or mentees, and most mentors felt an impact on the following matters:

- The benefits of assisting others - almost all mentors reported the positive feelings they received as a result of volunteering, such as being happy, grateful, and fulfilled.
- The self-reflection and development - most mentors discussed how they believed they had learned about themselves and grown personally as a result of their participation in the course. This includes increasing their patience, understanding, selflessness, and tolerance toward others, as well as their ability to manage their unpleasant feelings and situations more effectively.

- Acquiring new skills and knowledge - Numerous mentors discussed how these abilities translated into their interactions with family and friends. They cited being more patient with younger siblings, for example. Among the skills acquired was the ability to develop relationships and dialogues with others, interpret body language, engage in active listening, obtain an understanding about safeguarding children and adolescents and when to seek adult assistance, and recognise the difference between empathy and compassion. The majority of mentors saw the transferrable skills, knowledge, and experiences obtained through participation in the initiative as valuable for their future professions.
- Feeling supported - All mentors expressed their appreciation for the beneficial support and training they received from the project facilitators. Several mentors specifically highlighted how valuable the role-play portion of the training was in terms of allowing them to practice their abilities and fine-tune their methods prior to their mentoring sessions. Additionally, several mentors acknowledged the value of the continued monitoring and assistance they received from the facilitators (and the other mentors) throughout the program.
- Mentee engagement variability - Several mentors, noted persistent issues are engaging their mentees throughout their meetings. They described their mentees as being unusually reticent, unable to express their concerns, or unwilling to participate in sessions.
- Time concerns - Mentors who desired shorter sessions expressed difficulty keeping their mentees engaged during the session, whereas mentors who desired longer sessions felt they required additional time to cover all important subjects and difficulties with their mentees.

The significant improvements in mentees' overall mental health identified in this study corroborate a key theme from the qualitative interviews: mentees reported experiencing a positive emotional shift as a result of participating in the intervention, including feelings of happiness, less anger, less worry, and increased confidence (Stapley et al., 2022).

Learning, self-efficacy, and behaviour change are facilitated when people have a sense of psychological safety, or the perception that attempts to change behaviour can occur without fear or embarrassment (Heaney & Israel, 2008). Consequently, mentoring

facilitates psychological safety and, subsequently, learning. The mentoring approach's advantage over traditional teacher-led classroom settings is the enhanced learning and support for behavioural change that results from the perceived social support and psychological safety that is promoted by mentoring. Consequently, mentoring provides children with increased control over lifestyle behaviours that can be difficult to change and influenced by a multitude of factors (Smith & Holloman, 2013).

The links give youngsters emotional, informational, and appraisal support, which fosters a sense of psychological safety (between mentor and mentee), resulting in more favourable views toward modifying behaviour (Smith & Barker, 2009). Social support systems (friends, family, school, and surroundings) can also operate as protective factors. As such, there is a justification for examining how to build them best up to maximise the assistance they can bring (Coleman et al., 2017).

Cross-age peer mentoring has also been utilised to impact eating habits. Smith (2011a) projected that the mentoring relationship would increase mentees' self-efficacy, hence altering their behavioural intentions about food and exercise.

Smith (2011b) randomly allocated half of the youth to a comparison group in which teens were taught the same health education program in a group setting. Thus, any variations in outcomes, such as behavioural intention and health (body mass index), should be explained by the dyadic mentoring relationship in one group but not in the other. In Smith's study, 72 third and fourth-grade students were randomly allocated to one of two conditions: (a) curriculum taught by teens in a group setting ($n = 27$) or (b) content delivered in the context of a dyadic peer mentoring relationship ($n = 25$). The mentoring period was only eight weeks, along with the small sample size (which results in poor statistical power adequate to detect only moderate-sized effects). The mentors were compensated \$100 for attending the two-day cross-age peer mentoring programs, supplementary training in presenting the curricular materials (which were customised for dyadic rather than group delivery), and weekly supervision. Smith used paired-sample *t*-tests to determine pre-and post-intervention differences within each intervention group (the effect sizes reported here, *d*, reflect by how many standard deviations the youth differed after the intervention compared to their pre-intervention scores). After eight weeks, there were statistically significant changes in body mass index for mentored

adolescents ($d = -.41$) but not for curriculum-only youth ($d = -.26$). Mentored adolescents also showed significant gains in behavioural intentions ($d = .35$), but curriculum-only adolescents did not ($d = .06$). Comparing pre-and post-change in intentions to eat healthfully between mentoring and peer education groups revealed a statistically significant increase in mentoring youth's intentions to eat healthfully ($d = .35$), but no difference in body mass index. Smith expected that this shift in preferences would occur as a result of increased self-efficacy among mentees. Contrary to expectations, mentees improved their nutritional knowledge and attitudes about healthy eating, whereas curriculum group youth reported increased self-efficacy in post-test. Thus, while the data did not support the hypothesis about how adolescent mentoring would function, they did support the probability that the teen mentoring program resulted in higher changes in healthy behaviour.

Karcher, Davis, and Powell (2002) discovered that engaging teenagers as mentors was equally successful at promoting school connectedness in early childhood as adult mentors. In a study conducted by Smith & Holloman (2013), where a control group received 8-week peer mentoring sessions via classroom instruction from an adult teacher, while the experimental group participated in an identical program via individual teen mentoring. Only the teen-mentored group had a more significant increase in physical activity behaviour and a minor decrease in BMI (Body Mass Index) following the 8-week intervention. These findings indicate that at the conclusion of the intervention, the mentored teen group had improved health outcomes. Post-intervention health outcomes for the adult teacher group were not significantly improved. In the short term, teen mentorship of younger children is an effective method of providing a healthy curriculum and promoting healthy lifestyle patterns, particularly physical activity habits (Smith & Holloman, 2013).

Rastegar Kazerooni et al. (2020) conducted a recent experiment where a social media platform was developed in partnership with Shiraz medical school students that used the Peer Mentoring method¹ to have senior medical students teach junior medical students how to handle the stress and worry brought on by the COVID-19 pandemic. Students, mentors and mentees interacted with one another, sharing ideas and sentiments about mental and psychological issues. Ten senior students assisted junior students in regulating their emotions over this extremely contagious disease while working under the guidance

of knowledgeable professors. They advised using stress-reduction tactics, exercising, staying in touch with loved ones online, managing your time while in quarantine, etc. The most effective learning methods for online classes were also generally discussed. In order to promote medical students' mental health, care and support are essential. Creating a peer mentorship group may be beneficial. Senior medical students could offer others timely and useful psychological guidance as a result of their experience working with these students during this crisis. Therefore, it seemed that the experience was just as crucial for their professional development as it was for the mental health of more inexperienced pupils. We have discovered that senior students can advance the competencies they need to be successful doctors by taking on peer mentoring leadership responsibilities while keeping in mind the idea that by teaching, students get to learn twice (Rastegar Kazerooni et al., 2020).

Chapter 2 - The impact of the COVID-19 pandemic on health

2.1. The COVID-19 Pandemic

The global outbreak of coronavirus disease 2019 (COVID-19) was designated a public health emergency by the World Health Organization on January 30, 2020. Due to the necessity for social seclusion to decrease the disease's progression, SARS-CoV-2 disrupted regular activities. Unknown conditions with a bleak prognosis, coupled with a paucity of medical and protective equipment, have resulted in the imposition of restrictions on individual liberties (Marques De Miranda et al., 2020). Lockdowns, one of the most effective ways to stop the virus from spreading, were promoted by countries across the globe (Ruíz-Roso et al., 2020). Furthermore, the World Health Organization (WHO) recommends that a healthy lifestyle aid disease prevention and treatment (Advice for the Public: Coronavirus Disease (COVID-19), 2022). Unnecessary travel was prohibited, and citizens were asked to stay in their homes. A recent analysis of the literature suggested that quarantine measures could have detrimental psychological impacts, including symptoms of post-traumatic stress, tension, anxiety, and depression, based on lockdown experiences recorded in reaction to prior epidemics (Wathelet et al., 2020). Many countries have developed programs to avoid agglomerations during lockdowns, which has resulted in changes in lifestyle habits, particularly those related to food intake and physical activity (Ruíz-Roso et al., 2020). A pandemic could be classified as a disaster-like event because it has a non-routine nature that exceeds local capability to respond to it, causing changes in community, government, and individual support and infrastructure, as well as influencing regional stability (Marques De Miranda et al., 2020).

On the other hand, preventive efforts could significantly impact public mental health. Physical separation and quarantine have been demonstrated in studies exploring the psychosocial impact of previous pandemics (e.g., SARS and MERS) to have immediate and long-term consequences on people's mental health, including sadness, anxiety, psychosis, and perceived stress (Rauschenberg et al., 2021). Furthermore, these safety precautions have been linked to an increase in more distal risk factors for poor mental health, such as social isolation, risk behaviours (e.g., cannabis and alcohol abuse), and decreased physical activity (Holmes et al., 2020). According to data from previous

outbreaks, the present COVID-19 pandemic has significant psychosocial implications on public mental health, including elevated levels of sadness, anxiety, self-harm, and loneliness (Rauschenberg et al., 2021).

2.2. Impacts on Youth Mental Health

The COVID-19 pandemic has disturbed the lives of children and teenagers like never before. These changes resulted in an abrupt loss of structure, routine, and control. Unexpected illness, sudden unemployment and financial difficulties, trouble accessing basic requirements, and increasing caregiving responsibilities along with the shift to remote work were among the stressors faced by families (Gruber et al., 2021).

Youth's contact with friends, extended family, and teachers has been curtailed due to social distancing guidelines, potentially increasing isolation and loneliness. Schools typically provide tools that can help protect children from the harmful effects of stressors, such as supportive social contacts, physical activity, consistent meals, and a scheduled routine, all of which were unavailable to many U.S. children for a long time during the pandemic. To raise the risk of melancholy, anxiety, and behavioural issues in children and adolescents (Rosen et al., 2021).

At the start of the COVID-19 outbreaks, an early online poll collected data on the general public in China. It reveals a high rate of moderate to severe anxiety (28,8%), depressive symptoms (16,5%), and stress levels (8,1%) in the majority of the population studied (53,8%), as well as a high rate of moderate to severe anxiety (28,8%), depressive symptoms (16,5%), and stress levels (8,1%), with higher percentages in students, females, and people in poor health (Wang et al., 2020).

A study in France reported that university students showed significant percentages of suicidal ideation and severe symptoms of anguish, depression, anxiety, and perceived stress. Also, a study conducted during the early stages of the COVID-19 epidemic reported that students in China were more likely than older persons to experience worry, anxiety, and depression due to the outbreak (Wathelet et al., 2020).

Due to their development stage, young people spend the majority of their time among their peers. Young people were obliged to minimise their social interactions in addition

to the quarantine, resulting in a lack of demand for affiliation. Negative emotions such as dissatisfaction and loneliness arose as a result of social isolation. The isolation also had a negative impact on their educational and physical achievements, resulting in tiredness from distance study (Efuribe et al., 2020). This is supported by research findings that show that the younger people are, the higher their stress levels are (Al-Tammemi et al., 2020). Results of studies conducted among Chinese (Liang, 2020) and German (Rauschenberg et al., 2021) teenagers show that social isolation, deprivation of necessities, and anxiety about the future have a negative impact on their mental health. The decline in youth mental health could be widespread. Young people are the pandemic's biggest victims, as evidenced by their mental health (Wathelet et al., 2020).

In a study by Bernasco et al. (2021), it was discovered that adolescents who received more pre-COVID-19 friend support reported considerably fewer internalising problems during the pandemic. By minimising loneliness, for example, friend support may directly lower symptoms of sadness and anxiety (Nangle et al., 2003). Adolescents who do not have close, supportive friendships are more prone to feel isolated from their peers and experience internalising symptoms. Friendship support, on the other hand, may act as a buffer against the consequences of life events on mental health, such as the COVID-19 crisis, so that teenagers with better friendships have fewer psychosocial difficulties in times of crisis (Bernasco et al., 2021).

All teenagers may not find the COVID-19 crisis to be equally stressful. COVID-19-related stress could be related to disparities between teenagers in internalising symptoms during the COVID-19 crisis, as (interpersonal) stress has been linked to adolescent depression (Bernasco et al., 2021). Indeed, teenagers who saw COVID-19 as a severe threat to themselves or society as a whole had more negative and less positive feelings, and adolescents who had higher COVID-19-related stress had more depressive symptoms (Ellis et al., 2020). Individual differences in perceived stress during a crisis must therefore be taken into account (Bernasco et al., 2021).

Several variables could explain individual variances in teenage internalising problems during the COVID-19 crisis. Adolescents, in particular, found separation from their peers to be one of the most stressful aspects of the lockdown (Branquinho et al., 2020). Friendships are a significant source of well-being for teenagers. Good-quality friendships

can help prevent depression by reducing loneliness (Nangle et al., 2003). According to the buffering hypothesis of social support (Alloway & Bebbington, 1987), social support influences how important life events affect mental and physical health. Over and above parental support, friends can be a source of protection against unpleasant life events, and friend support may be especially crucial during the COVID-19 crisis, as peer relationships have been severely constrained during this time. According to the cumulative protection hypothesis (Masten & Wright, 1998), having numerous protective variables may lead to greater resilience than having individual protective factors. Adolescents who (continue to) spend time with their supportive friends may benefit more from the friend support they perceived prior to the crisis than adolescents who do not see their supportive friends as much. As a result, when friends continue to spend time together, both online and offline, friend support may have a stronger buffering effect (Bernasco et al., 2021).

Aside from support, the amount of time teenagers spend with friends (whether online or offline) has an impact on psychosocial adjustment. Spending time with friends, for example, has been found to predict delinquency over and above friendship closeness and to augment the effect of friend delinquency on teenage delinquency (Agnew, 1991). Adolescents with more internalising symptoms are more prone to disengage from social interactions, lowering the quality of their close friendships. Adolescents with more internalising symptoms may be more likely to retreat from connections with peers during COVID-19 when structural ways to meet friends (such as in school) are more limited and maintaining peer relationships needs more initiative from adolescents (Bernasco et al., 2021). However, a cross-sectional study found that adolescents who spent more time with friends during the COVID-19 crisis were more likely to experience depressive symptoms, possibly because they used more emotion-focused coping strategies, such as co-rumination, which have been linked to internalising symptoms (Ellis et al., 2020).

While peer interactions grow more significant during adolescence, parental relationships continue to play a vital role in teenage social development. Many families are isolated at home, under a lot of stress, and unable to get help in person. Confinement, social isolation, and the inability to use coping mechanisms such as personal space or visiting with family/friends may amplify the impact of these stressors (Imran et al., 2020).

Longitudinal studies show that childhood experiences of family instability and aggressive parent behaviour are linked to mental health problems in adolescence and that difficulties

in parent-child relationships, such as family discord, are linked to adult mental health problems later in life (Bakker et al., 2012). As a result, healthy parent-child interactions and a sense of belonging among peers contribute to adolescent psychological well-being. It has been hypothesised that pandemic-related issues such as confinement-related stress may have a harmful impact on parent-child relationships (Prime et al., 2020). Furthermore, during the COVID-19 pandemic, increased parental psychological distress was linked to lower emotion regulation in children, according to current research (Morelli et al., 2020).

Increases in parental stress during quarantine are associated with their children's negative emotions and behaviour; the more stressed a child's parent is, the more stressed the child themselves are. These parental mental health difficulties may lead to negative parenting behaviours related to nurturing and monitoring, decreased attention to a child's needs and more significant dysfunction within the home (O'Sullivan et al., 2021). Increased family stress exacerbated by home-schooling and reduced psychological support through school means that young people might be more vulnerable (Bubb & Jones, 2020).

Adults who engage in inexplicable and unpredictable behaviour may experience increased anxiety. They may avoid revealing their sentiments in order to prevent having emotional talks, causing concern about the state of adults, dealing with their issues, and protecting others (Dalton et al., 2019). This can make young people in their families feel lonely. Adolescent mental health benefits greatly from parents talking to their children and creating sensitive and effective communication about the problem (Kılınçel et al., 2020).

In research by Orgiles et al. (2020), where the emotional impact of the quarantine was examined in children and adolescents from Italy and Spain, it was concluded that the quarantine has a significant effect on the lives of Italian and Spanish youngsters. Most parents notice differences in their children's emotional states and behaviours during the confinement compared to before. According to their parents, Spanish children exhibit more emotional and behavioural symptoms than Italian children, presumably because Italian kids have more opportunities to be physically active. Both countries' children's emotional and behavioural problems appear to be linked to their parents' well-being,

specifically their level of stress. On the basis of these data, we can conclude that a stressful circumstance like the quarantine affects both children and parents (Orgiles et al., 2020). Also, the quarantine period has increased the amount of time spent in front of screens. It has been used by children and teenagers for learning (due to school closures), as well as enjoyment and social connection. The literature review looks at both the good and negative effects of such a rise on mental health (Marques De Miranda et al., 2020). Two studies, one by Jiao et al. (2020) and the other by Vanderloo et al. (2020), state that entertainment media has become, for many families, a tool for coping with distress, boredom, and lack of social interaction caused by the pandemic. In that sense, especially for adolescents, social media use can be helpful in protecting mental health, as it allows access to information, social connection, identity development, and self-expression. Some of those risks are significant exposure to fake news and misinformation about COVID-19, for some youths may not have enough knowledge to assess the accuracy of the information, disruption in sleep and circadian rhythms, and an increase in anxiety (Marques De Miranda et al., 2020).

According to Rosenthal et al. (2020), stress among caregivers and parents, along with a lack of mental health resources and social isolation among minors, increases the risk of child abuse during the quarantine. Adults, in reality, are affected by economic downturns and job losses, as well as changes in daily routine and the need to care for their children all day without the ability to organise leisure activities outside. Furthermore, social isolation leads to a lack of emotional support at a time when both adults and children are facing uncertain futures. Again, by restricting schools and public areas, children lose interaction with the community, reducing their ability to seek assistance (Deolmi & Pisani, 2020).

During quarantine, the loss of routines and restricted social and physical interaction with people can produce frustration, disappointment, and an irritating sense of isolation (Kılınçel et al., 2020). Closure of schools had a variety of effects on the behaviour of children and teenagers. Concerns concerning food nutrition and physical activity for children and adolescents were raised in several articles. Schools are the principal source of constant daily calorie intake and address nutritional concerns among youngsters. School activities also provide structure and routine to the daily lives of children and adolescents, and their disruption and consequences have been a source of concern for

various writers, particularly when the participants are ADHD patients. Parents of ADHD children in Ireland, on the other hand, stated that their children's conduct and mood had improved after schools had closed (Marques De Miranda et al., 2020).

According to three studies by Xie et al. (2020), Zhou et al. (2020), Chen et al. (2020) and there's a prevalence of depression and anxiety during various stages of childhood and adolescence. It was discovered that older adolescents and children have more depressive symptoms than younger adolescents and children. When it came to anxiety, however, the findings were mixed: two studies, Xie et al. (2020) and Chen et al. (2020), found no significant difference between ages (despite the fact that it was higher in the older ones), Zhou et al. (2020) found that anxiety increased with age. A single study compared primary school and college students and found that college students had more depression, anxiety, and physical symptoms (Liu et al., 2020).

A very interesting study investigates the COVID-19 experiences of Irish children and teenagers, focusing on the psychological effects of the epidemic on this age range (O'Sullivan et al., 2021). Regarding social isolation, children's negative mental outcomes, according to both the parents and the kids in this study, were brought on by feelings of social isolation and loneliness. Children as young as five years old said, "I disliked everything about COVID" (Child aged 5). when speaking about being cut off from friends and school. All of the parents were said to express great anxiety about what prolonged social isolation might do to their kids. It was widely accepted among parents that their kids would make up any intellectual ground lost. However, the absence of social engagement with their classmates had the biggest negative impact on the kids. Another parent talked about how their child's behaviour had changed subtly and how they felt helpless to intervene (O'Sullivan et al., 2021). Stress over home-school expectations and the pressure put on kids to finish their homeschooling was another factor contributing to poor mental health results. Some children struggled with autonomous work and found remote learning to be challenging. Like many other kids, she missed the classroom's collaborative working environment and found the demands of homeschooling burdensome. This study often returned to this theme. Many families stated that they would not force their children to attend home school in order to preserve the harmony of their family unit (O'Sullivan et al., 2021).

A study carried out by Lobe et al. (2021), part of the international research project - Kids' Digital lives during Covid-19 times (KiDiCoTi), focused on how the COVID-19 shutdown (spring 2020) changed the dynamics of how children (10–18 years old) from 11 (Austria, France, Germany, Ireland, Italy, Norway, Portugal, Romania, Slovenia, Spain and Switzerland) nations encountered harmful online situations, concentrating on the responses or activities that kids or their parents took to reduce these risky online scenarios. Over the 11 countries, almost one in two parents expressed greater concern about their children's online activity during the lockdown than they did previously. The rates at the national level range from 37% in Austria to 59% in Portugal and Ireland (Lobe et al., 2021). At the national level, Portugal (45%) had the largest percentage of kids who struggled harder to try to spend less time online during the lockdown.

The findings also indicate that, for at least a third of the children tested, self-reported misinformation increased throughout the lockdown period. In terms of individual countries, children reported more disinformation events during the lockdown in spring 2020 in Ireland (48%) and Portugal (45%) and less in France (28%) and Germany (29%). A crucial aspect of evaluating children's well-being is their overall sense of safety in the circumstances of their daily lives, both online and offline. Overall, kids said they felt most secure in Norway and least secure in Portugal and France (Lobe et al., 2021).

Many parents claimed that their kids were anxious throughout the COVID-19-imposed lockdown. For instance, after a few weeks of restrictions, one mom saw the emotional changes in her children. Other parents explained that the anxiousness in their kids showed up as impatience and attachment problems. Parents talked about needing to limit the COVID-19 information they told their kids and how worrying it was to watch the news. The media coverage of the epidemic and the lack of contact with friends and family were two factors that families generally mentioned as contributing to their children being worried and hyperactive during the pandemic (O'Sullivan et al., 2021). While adolescents' unfavourable mental health outcomes were comparable to those of younger children, they manifested differently. During the teenage lockdown, depression and anxiety were frequently reported, and many parents sought out mental health assistance for their teenagers. After the mourning of milestones that were postponed due to COVID-19, adverse mental health consequences were noted. Additionally, many parents said that teenagers now worry more about upcoming changes, such as the change to secondary

school. All of the teens in this study who were interviewed reported having poorer mental health as a result of COVID-19's narrow limits. Teenagers were restricted to their homes due to a lack of freedom, which presented a number of difficulties. The lack of structure, routine, and sources of support for teenagers during COVID-19 has been connected to the focus on their current problems. Due to the loss of their normal sources of support, parents expressed rising concern for their teenagers. For instance, one parent discusses how she was now more cognisant of her daughter's anxieties and issues with body image (O'Sullivan et al., 2021). In conclusion, this study discovered that, as has been observed elsewhere [8], the use of social exclusion and stay-at-home orders to slow the spread of COVID-19 is detrimental to young people's mental health. Psychiatric problems, including sadness and anxiety, are more likely to emerge during these formative years, with half of all mental health illnesses appearing before the age of 14 (O'Sullivan et al., 2021).

In research from Francisco (2021), younger Portuguese children, during the COVID-19 period, had more emotional instability and more sleep and behaviour problems, with concerns especially about being away from grandparents or friends, and they missed playing with other children a lot. In turn, adolescents were more concerned about COVID-19 and angrier about the situation we are experiencing, highlighting the longing to be with colleagues and friends and revealing concerns about uncertainty regarding school and their future. Future, namely with entry into higher education, vacation plans or “key moments” in the development of those who transition to adulthood (e.g., graduation parties), among the elderly (Francisco, 2021). Adaptation of children and adolescents to the challenges we are experiencing and to the pandemic situation, in particular, is largely influenced by parents' behaviour and other adults of reference. Effectively, responding adaptively to the same anxiety that the pandemic causes and managing the family's daily life can become much more difficult when parents also find it difficult to control stress, whether due to financial difficulties or changes in work. It may have caused problems in reconciling telework with the management of studying at home or even difficulties in the marital relationship, which research has also shown to have increased (Fernandes et al., 2021).

In a cross-sectional study, the impact of isolation, social interaction, and parental ties was measured on teenage mental health in the UK while under lockdown. Measures of

loneliness, social interaction, parent-adolescent relationships, and mental health challenges were completed by young people aged 11 to 16 ($n = 894$) during the first 11 weeks of lockdown and one month later ($n = 443$). Although loneliness was not connected with mental health challenges one month later, it was discovered that higher degrees of loneliness were cross-sectionally associated with more mental health issues, particularly emotional distress. Contrary to predictions, more social interaction was not linked to a better state of mind or less loneliness. One month later, adolescents who spent more time chatting to others at baseline (by voice or video call) showed fewer signs of hyperactivity and inattention. At both the baseline and follow-up, adolescents who said they felt more connected to their parents reported less loneliness and distress. More online friend interaction during the COVID-19 pandemic was linked to increased depression levels among Canadian teens. At the same time, the frequency of indirect social contact (such as texting) did not have the same mitigating effect. Live social interaction should therefore be encouraged, even if it happens online (Cooper et al., 2021).

Also, teenagers who reported feeling close to their parents during the beginning of lockdown said less psychological discomfort one month later, given that lockdown was a period when most families spent more time together at home than normal. In our study, parental proximity was negatively correlated with loneliness. The loneliness measure did not distinguish between friend-related loneliness and family-related loneliness, so it is impossible to determine whether closeness to one's parents was particularly associated with family-related loneliness, which may have decreased during the lockdown, as opposed to friend-related loneliness, which may have increased. Previous research has shown that childhood chronic peer-related loneliness, but not parent-related loneliness, predicts adolescent depression and that peer-related loneliness is more strongly associated with depression in adolescents than parent-related loneliness (Cooper et al., 2021).

Peer support online interventions appear to have a protective impact against anxiety, stress, and psychological distress associated with trauma among frontline healthcare workers during the COVID-19 pandemic, according to some preliminary investigations. An Iranian project to provide an online peer support platform for university students revealed that in the early years, 71% of students felt some relief from pandemic-related stress (Kazerooni et al., 2020). Peer support treatments had the largest impact sizes for depression and generalised anxiety disorder among college students when compared to

other community interventions, according to a systematic review and meta-analysis. As a result, peer-based therapies seem to be a useful strategy in the COVID-19 pandemic (Arenas et al., 2020).

At the Brazil's Federal University of Rio Grande do Sul, a program called "Pega Leve" (PL) was created in order to respond to this exact issue. It is an online gatekeeper training program for college students, consisting of eight hours of theoretical-practical activities broken down into four modules: Understanding the university environment, recognising risky behaviour or emotional distress in peers, communicating empathically with someone who is distressed, developing emotional self-regulation skills, and knowing when to seek mental health services are the first four competencies (Arenas et al., 2020). Beyond the effects of food insecurity, socioeconomic status, dual parent status, maternal depression, and stress, a recent paper on the pandemic showed that preschoolers in families who maintained a structured routine during the pandemic showed lower rates of depression and externalising problems (Rosen et al., 2021).

2.3. MHealth Apps

Information and communication technology could play a significant role in easing the psychosocial effects of COVID-19. For instance, mobile health applications (mHealth apps) and digital interventions that do not require face-to-face contact (e.g., Internet-based interventions [eHealth] and mobile health apps) may help to improve public mental health during health crises. The term "mobile health" can also be referred to as the application of technology made possible by mobile devices to promote public health (Grundy, 2021). According to the WHO Global Observatory for eHealth (2011), "medical and public health practice assisted by mobile devices, such as mobile phones, patient monitoring devices, personal digital assistants (PDAs), and other wireless devices" (WHO, n.a., p. n.a.) is what is meant by mHealth.

mHealth can also be defined as the secure and cost-effective application of information and communication technology to support health and health-related sectors, including the use of mobile wireless technologies for public health. eHealth and emerging fields are

included under the umbrella term "digital health", that is frequently used nowadays (WHO Global Observatory for eHealth, 2011).

Smartphone applications (apps) enable people to interact with others remotely (e.g., by using video-conferencing software) (Rauschenberg et al., 2021). A study by Rauschenberg et al. (2021) examined whether psychological distress during the COVID-19 pandemic in a representative sample of adolescents and young adults during the active lockdown in Germany was associated with social isolation, lack of company, COVID-19-related worries and anxiety, as well as objective social risk indicators. Additionally, connections with current mHealth app usage and attitudes toward those apps were looked into. First, there was evidence that psychological distress was linked to social isolation, loneliness, and cognitive preoccupations, fears, and anxieties connected to COVID-19. Second, although there were some discrepancies, we discovered evidence of dose-response associations as psychological distress was gradually more likely to occur as the level of reported social isolation, loneliness, and COVID-19-related preoccupation, anxiety, and worry grew. Third, whereas other objective markers of social risk were not linked to psychological distress, it was discovered that membership in a migrant/ethnic minority group was. Levels of the social risk index did not consistently correlate with psychological distress. Fourth, there was evidence that a negative attitude about using mHealth apps to combat the COVID-19 pandemic's harmful effects was connected with psychological discomfort and high levels of COVID-19-related cognitive preoccupation, concerns, and worry. Finally, although some discrepancies were discovered by levels of respective variables, it was more likely that those who experienced severe psychological distress, frequent social isolation and a lack of company, as well as preoccupation, anxiety, and worries related to the COVID-19, would actually use mHealth apps (Rauschenberg et al., 2021).

Since there is both a personal demand and an objective need, digital treatments may help to lessen the detrimental effects of the COVID-19 pandemic on young people's mental health. In times of physical isolation and quarantine, smartphone-based mHealth apps are especially well-suited to offer low-threshold and prompt public mental health care. There is an urgent need to (a) develop and evaluate digital interventions specifically designed to address social isolation and poor mental health to actively prepare for a potential worsening of the current pandemic as well as future health crises and (b) make these

evidence-based digital interventions publicly available in order to improve public mental health, and (c) do all of the above because the quality of evidence of currently available apps in major app stores is frequently unknown or very limited. In order to help young users find evidence-based digital tools that are most helpful for their unique preferences and current needs, decision-makers and stakeholders in the field of public mental health should work on systematically evaluating the digital interventions that are currently available (Rauschenberg et al., 2021).

Health practitioners are not required to advocate, prescribe, or monitor the use of the vast majority of health apps that deal with some aspect of health and wellness because they are sold directly to consumers and are largely exempt from regulatory scrutiny (Grundy, 2022). The true potential of mobile health apps rests in the ability to customise, modify, and personalise behaviour modification interventions based on user and environmental data in real-time to enhance health outcomes (Grundy, 2022).

The use of mobile health technology can increase everyone's access to and affordability of healthcare. It has been shown to be an efficient method of providing high-quality healthcare services to a variety of patient populations, especially those in rural areas and those with low budgets (far from reference centres). Due to the fact that young people use electronic media more frequently than any other activity other than sleeping, mHealth technology has also been shown to be very suitable for and very popular with them (de la Vega & Miró, 2014).

More than 325,000 health apps are currently accessible across all mobile platforms' commercial app stores, ten years after the first health apps debuted in Apple's App Store (Research 2 Guidance, 2018). Top-rated apps for users across the life span have been evaluated by researchers, including those aimed at infants and their caregivers (Zhao et al., 2017), children (Furlong et al., 2018), college students (Musyoka et al., 2020), pregnant women (Tucker et al., 2021), and older adults (Portenhauser et al., 2021).

These types of mobile applications can be divided by focus on health promotion, including sleep patterns (Choi et al., 2018), nutrition (Choi et al., 2021), physical activity (Bondaronek et al., 2018), and menstrual cycle (Zwingerman et al., 2020); illness management and chronic disease prevention, including substance use (Musyoka et al.,

2020), depression and anxiety (Wasil et al., 2019), depression and anxiety (Wasil et al., 2019) and cancer (Adam et al., 2019). The sampled applications were primarily used for tracking, self-monitoring, and informational purposes (e.g., calorie or step counts, calendars, mood assessments), with sporadic automatic feedback or reminders (Grundy, 2022).

Additionally, mHealth apps can be used for public or individual health purposes. Still, they can also be incorporated into collective initiatives used as platforms for communication and treatment of mental health issues. Also, it is important to showcase some examples of mHealth apps that use incorporated mentoring strategies to support communities in need. More than just diagnosing and providing tools for treatment, these apps follow mentor & mentee relationships to offer close and continuing mutual support.

For example, some studies showcase the opportunities in mHealth apps to be incorporated into mentorship programs focused on helping communities with health issues. MAESTRA, which stands for MAESTRA (mHealth Application to Enhance Support, Treatment Readiness and Adjustment), is a mobile application tool created as a result of a study by Bans et al. (2016). MAESTRA, which in Spanish means "teacher" or "mentor," matches people who have recently been diagnosed with breast cancer with mentors who have gone through a similar experience in order to promote communities of care and gather community intelligence (Banas et al., 2016).

Additionally, a mHealth-based substance abuse prevention program for college students appeared to support the effectiveness of technology-based peer mentorship after its deployment. Peer mentors were used in the study methodology to communicate with their mentees within the course of regular university life and to ensure participant convenience. The objective was to show that the mHealth intervention may be used as a decision-support tool for mentoring activities among university students (Musyoka et al., 2020).

Finally, a mobile-based peer-mentor assistance system for veterans was suggested in a work by Rizia et al. (2014). The system enhances Dryhootch (DH), a veteran-led community organisation that offers an informal network of peer-mentor support for assisting veterans in transitioning to civilian life; the current process with technology-based systems: a mobile application for mentees to access those behavioural surveys remotely so that the process becomes ubiquitous, a mobile application for veteran mentors

to assist them in visualising the condition of their mentees over a wider time period (several weeks) (Rizia et al., 2014). The proposed system's contribution can be summed up as follows: the first mobile health strategy that combines peer mentoring with veteran reintegration assistance, aiding veteran peer mentors to identify and treat veterans' reintegration issues before sentinel events like family dissolution or job loss occur, recognising modest signs of mental disease early on and preventing it from progressing to chronic illness (Rizia et al., 2014).

Part II – Empirical Work

Chapter 3 – Methodology

The chosen methodology for the project development was the Kanban methodology, a very popular framework in agile and DevOps software teams. This was the chosen methodology because it can be adapted to one-person work since it is flexible and has short work cycles. The Kanban board works with visual metrics, it becomes easier to visualize all the work since the development team works well with visual keys. This way, we will use this agile tool to better organize and keep the project on track. Agile is an iterative method of project management and software development that supports teams in providing value to clients more quickly and with fewer problems. An agile team produces work in small, digestible increments as opposed to placing all of their eggs in one massive "big bang" launch. A group of approaches known as agile show a dedication to rapid feedback cycles and ongoing improvement.

In sum, the use of this method relies on the need to have all the work organised and be able to see its progression until the conclusion. In a project with several phases, it's key to have an easy and flexible method to keep work on track.

3.1. The Kanban method

For organisations, the Kanban method is "an approach to a steady and evolutionary process and systems transformation" (Anderson & Reinertsen, 2010, p.24). The system is continuously improved by using work-in-progress to highlight issues, encourage teamwork, and reveal flaws. The Kanban system, which gives this method its name, is an illustration of a pull system. The Kanban Method can be applied as an evolutionary modification of an existing system in a specific organisation (Anderson & Reinertsen, 2010). The three fundamental tenets of the Kanban approach are as follows:

- Start with what you are doing right now: There is not a universally applicable set of guidelines that would apply to every business, team, or project. The group or individual who wants to use this method must constantly work to make adjustments to their current system.

- Agree to seek evolutionary, gradual change: The group or organisation must consent to enhance its operations progressively. Because organisations are resistant to change, gradual reform will be more successful. This promotes minor adjustments that have a higher likelihood of being maintained by the team.
- Observe the existing procedures, roles, responsibilities, and titles: The organisations' practices or other features may be the cause of the fear of change because they are well respected and may be valuable to keep. Initial anxieties can be vanquished by agreeing to respect existing roles and job names. This contributes to the new system receiving more support. It might be more effective to highlight the benefits of the Kanban Method as an alternative to radical changes in titles, positions, or responsibilities.

3.2. The Five Core Properties of Kanban

Anderson & Reinertsen (2010) asserts that each successful use of the Kanban Method is characterized by the presence of five key principles:

1. Visualising the workflow
2. Limiting Work In Progress (WIP)
3. Managing Flow
4. Making Process Policies Explicit
5. Improving Collaboratively (using models & the scientific method)

Visualising Workflow

Using a Kanban board is the primary method of visualising the workflow. An electronic card wall system or a whiteboard with stickers on it are two examples. Each column corresponds to a particular stage in the development of the product. There are five stages on the board in Figure 1, each of which can accommodate a different project component. The majority of Kanbans have their system for organising the columns, but normally each version would have a separate "To do," "Work-in-progress," and "Done" column. A request or ticket must remain on the board once it is added to the "Work-in-progress" section until it is moved to the "Done" column. The most crucial and significant factor affecting the system's transparency and capacity to cut waste is the Kanban board. It

reveals bottlenecks, lines, and, most importantly, all waste, making the entire process clear to the team (Kniberg & Skarin, 2010). Additionally, from the team's perspective, it promotes collaboration and discussion, which is validated by early case studies (Kniberg & Skarin, 2010). As a result, the system is continuously improved, giving the team a sense of ownership and accountability for the entire project (Kniberg & Skarin, 2010).

Limiting Work In Progress (WIP)

According to the Kanban method, a column should be set aside for the tasks in progress. In order to maximise system efficiency, the maximum number of items permitted to be in work-in-progress should be determined for each Kanban system independently (Kniberg & Skarin, 2010). Setting the bar too high will cause the staff to be overworked, which will result in wasteful and pointless duties. However, too low of a limit can cause workers to become idle, which has a negative impact on production. A team can limit the amount of work it has to what it can handle by having a limited WIP. The theory of constraints, on which the method of restricting WIP is founded, makes teams more sensitive to potential issues, enabling them to do more work with fewer errors and less time (Kniberg & Skarin, 2010).

Managing Flow

Lead times and cycle times are two different concepts that are used by Kanban users. Cycle time is the period of time between the start of the actual work on the request and the time the title is available for delivery (Kniberg & Skarin, 2010). For instance, if a team does not do a specific number of jobs within a certain time, it could mean that the WIP limitations are set too high, or the number of columns is not appropriately organised. For the team to have enough time to produce a high-quality component for client demonstration and to receive regular client feedback, the cycles should not be too long or too short. In order to better manage clients' expectations, it also enables developers to forecast when each task will be finished (Kniberg & Skarin, 2010).

Making Process Policies Explicit

A Kanban board's primary functions are to promote team collaboration and make process policies clear. It is frequently difficult or impossible to talk about a process improvement unless its users clearly understand it (Kniberg & Skarin, 2010).

Improving Collaboratively With Models and The Scientific Method

When teams share an understanding of theories about work, workflow, process and risk, they are more likely to contribute through shared comprehension and actions which result from a consensus (Kniberg & Skarin, 2010).

To visualise the workflow, we will construct a Kanban board that will show the different stages of the project development. Every Kanban board must have these five components: Visual signals, columns, work-in-progress limits, a commitment point, and a delivery point (Atlassian, n.d.).

Picking up on some elements explained before and looking at Figure 1, as visual signals, we have the Kanban cards where teams write down all their projects and work items, usually one per card. This way, the visual representation helps to understand what the teams are working on. Each column refers to a particular task that together makes up the workflow. Cards move along the workflow until they are finished. Workflows might be very straightforward, such as "To Do," "In Progress," or "Complete," or they can be very complex. Work-in-progress (WIP) limits are the maximum number of cards arranged in a single column. For example, there can never be more than three cards in a column with a three-card WIP limit. Before new cards may enter that workflow stage, when the column is "maxed-out," the team must swarm on those cards and move them ahead. The decision to proceed with a project is made at the commitment point when the team decides to pursue the idea. Finally, The process of a Kanban team comes to a stop at the delivery point. The team's objective is to move cards quickly from the commitment point to the delivery location (Atlassian, n.d.).

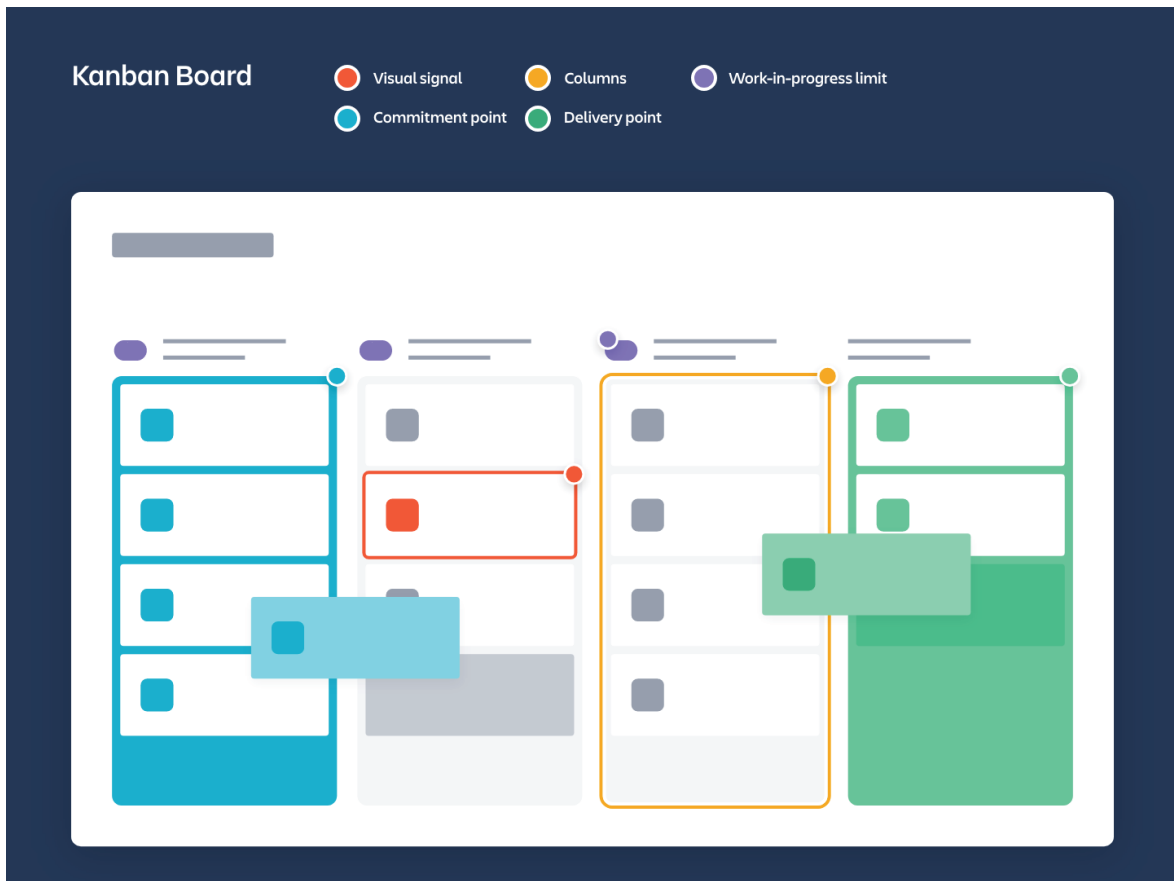


Figure 1 - Elements of a Kanban board (Atlassian, n.d.-a)

The Kanban board will be used throughout the development of this project. The project started with research and benchmarking to assess the market and possible competition. We searched online for similar apps and read articles about trends in the mobile app market, mental health business trends and peer-mentoring programs. After understanding that there was an opportunity in the market for this app, we moved on to the project's planning phase. For the planning of the project, a Kanban board was designed to keep the planning organised and structured. We started with a research review of the main subjects and moved on to empirical work. In the empirical work phase, the app was conceptualised and designed to fit the concept. Then, a business plan was put in motion by doing a business overview, environment analysis, competition analysis and financial review. Each of these steps required extensive research. Finally, the marketing and communication plan was created by looking at and aligning with the market trends. After all of the planning, a second Kanban board was created for the project management of the prototype development and testing, including the testing of the marketing and communication strategy. For the test of the prototype, a link will be distributed for the

test to young teens between the ages of 12 and 18, that represent the potential mentees and to young people between the ages of 18 and 23, that represent the potential mentors.

For the Kanban boards, each board will have a “Backlog” column with no WIP limit for the team to visualise all the work regarding the project. For the project development Kanban board, the other columns are “Up next”, “In progress”, “On hold”, and “Done”. For the prototype test Kanban board, the columns will be “Analysis”, “Prototype development”, “Test”, and “Release Ready”. Each card will have colour-coded tags, as each colour represents the project's different components. This way, the work can be organised and, if needed, filtered by component (e.g., app development, marketing strategy, financial, among others) (see Table 1).

Backlog	Analysis (2)	Prototype development (4)	Test (15)	Release Ready

Table 1 - Partner-Up Kanban board

Chapter 4 – Partner-Up

As already mentioned before, Partner-Up is a mHealth peer-mentoring app. The app has different features for the mentors, the psychology students, and the mentees, the young struggling teens. In this section, we will explain in detail how the platform works, the mentor and mentee screens, and its usability. The app is in Portuguese because the main target is Portugal.

The inspiration for the app design began with the colour scheme choice. We wanted to keep it light, modern and clean but still vibrant. We have white as the main neutral colour, which works as a blank canvas that allows other colours to pop. Also, black for contour and contrast. The main colour is orange, a great call-to-action colour that highlights the buttons and features. The app has a modern, informal and youthful design, a cool tone of voice, and fun illustrations to connect to mentees and mentors generation and make them feel confident.

The app can be downloaded through the App Store or Play Store (depending if the user uses an iOS or Android device). Here is an example of how the Partner-Up looks in a homepage of an iPhone.

After successfully downloading the app, the user can now open the app and will be presented with a three-slide slideshow to promote the three main features of the app: the opportunity to have a mentor that is familiarised with the struggles the user might be struggling with, the easy build-in chat & calls features, and to be a part of a community (see Appendix 1).

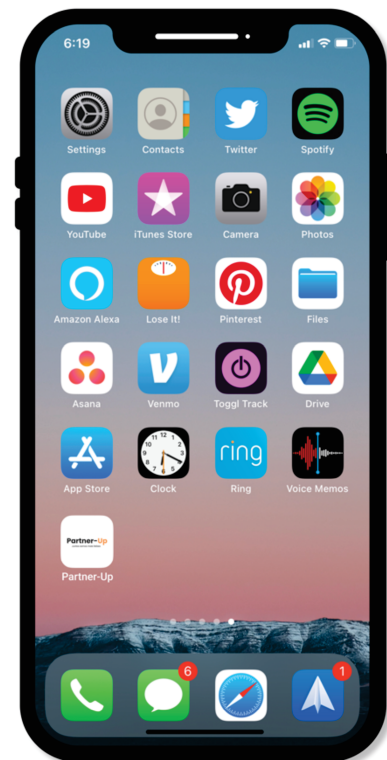


Figure 2 - Partner-Up app in iPhone Homepage

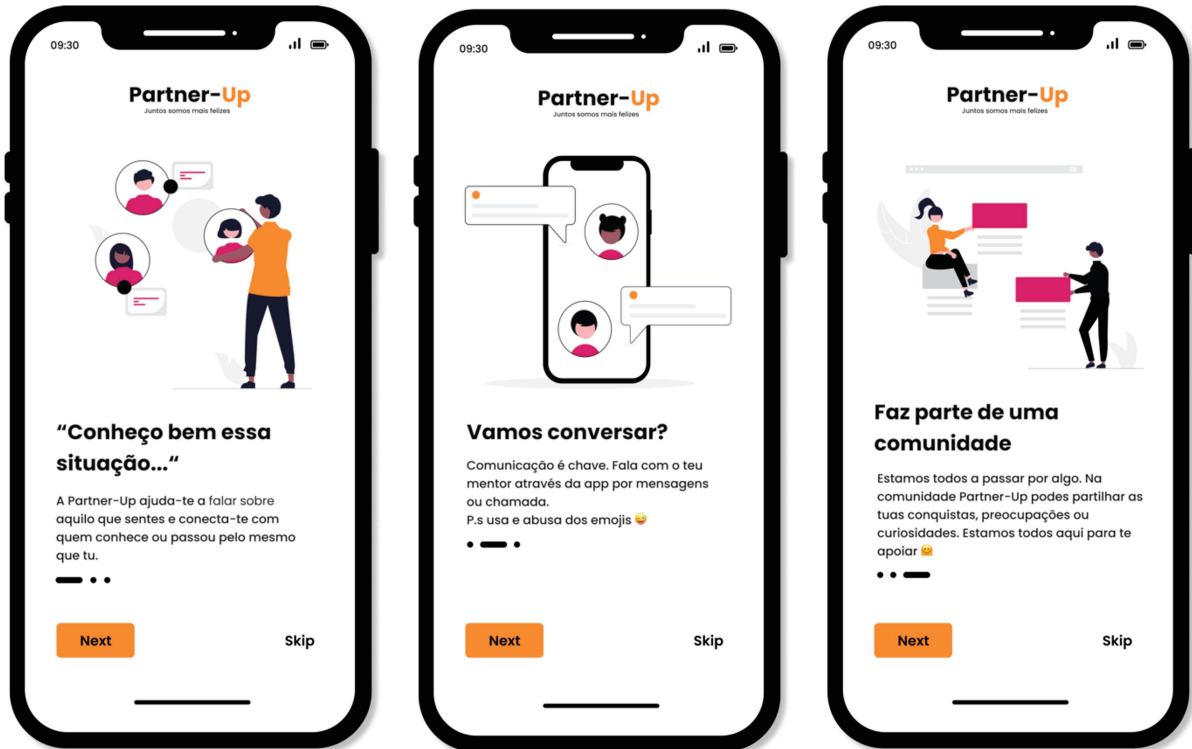


Figure 3 - Partner-Up Opening Slideshow



Figure 4 - Partner-Up Login

After sliding through the slideshow or just pressing the button skips, the user moves on to the login page. The user can enter their credentials if they already have an account or register at the login page (see Appendix 2). After registering the user moves on to the login page, the user will have to fill out a brief form to access the issues, some personal information and preferences of the future mentee to better match them with a mentor. The form is divided into four questions: assessment of the issues the teen is struggling with, gender identity of the user (providing inclusive options), age, and mentor's gender preference. The issue assessment questionnaire is based on mental, emotional, and behavioural risk factors that can be the source of mental issues in youth (O'Connell, Boat, & Warner, 2009). The option on the issue assessment question is also adapted from a questionnaire used in the BetterHelp app. The mentor's gender preference is also a question included in the form to offer the mentee a more curated and comfortable experience. If they can be matched with someone they feel more comfortable and can relate more with, the alliance between them will be stronger (Wintersteen, Mensinger, & Diamond, 2005) (see Appendix 3 and 4 for more detail). After completing the form, the user moves to the personalised homepage (see Appendix 5).

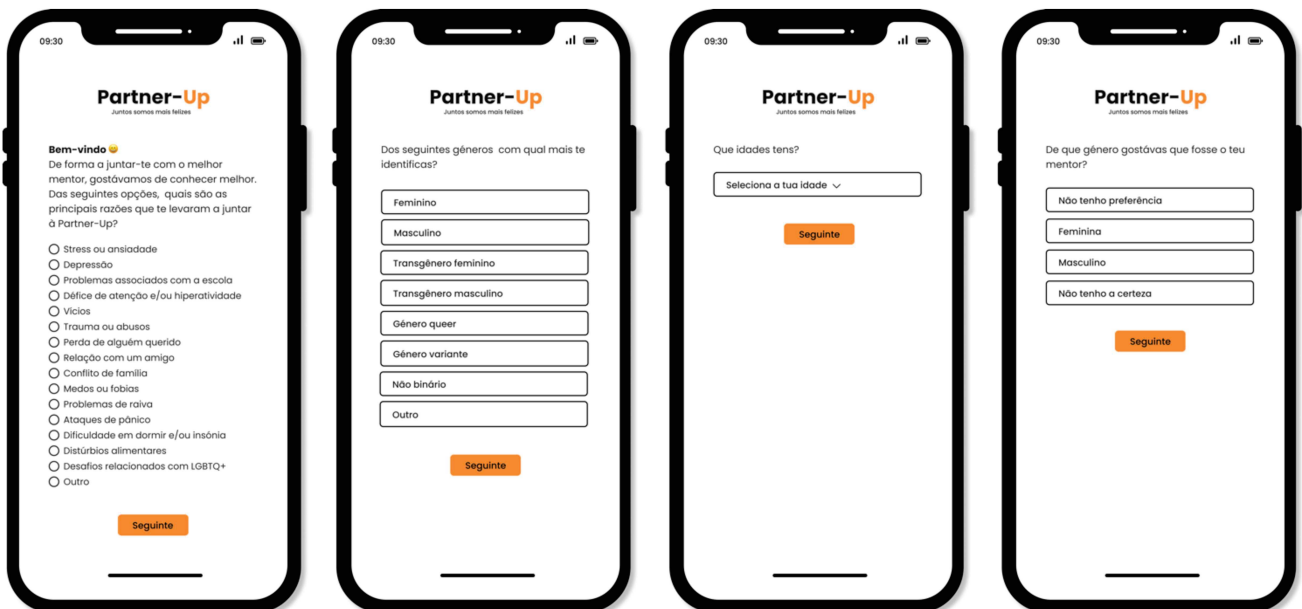


Figure 5 - Partner-Up Start form

If the user is a mentor, a set of credentials was automatically generated for them and inserting them in the login page will automatically skip the form and move them forward to the designed mentor’s home page.

The homepage (Figure 6) has a welcome message personalised with the name of the user. It also contains a section for daily reflection that allows the user to share with their mentor how they are feeling that day and describe their current situation. There is also a “Quote of the day” section. This feature is just a nice way to give the mentee an inspirational or motivational quote for the day. It’s going to be updated automatically. Also, there is a section promoting the app's main feature, the built-in chat with the mentor. This section promotes conversation with the mentor, encouraging users to share whatever they feel comfortable with. Finally, there is also a button directing to the community page.



Figure 6 - Partner-Up Homepage

The daily reflection questionnaire begins with “How are you feeling?”. This question has a 5-point Likert scale, adapted to rate the valence of the user. This type of Likert scale has proven reliable when used with children (e.g., McManis, Bradley, Berg, Cuthbert, & Lang, 2001). Also, emojis make the question more informal and easy to answer. The next question invites the user to explore what makes them feel that way and briefly describe the situation. This daily reflection invites the mentee to look at their thoughts, feelings, emotions, and actions. This way, they can externalise their emotions and identify and learn the causes of their feelings (La Torre, 2005). Also, this gives the mentor a way to previously understand the mood of the mentee and adapt his approach (see Appendix 6).

The chat is designed only to enable conversation and calls between the mentor and mentee. It is an important tool to promote an informal and friendly conversation between the group. Digital technology may also allow more in-depth discussion of more delicate

subjects, helping to combat the shame and stigma many individuals have when discussing such topics in person (Levine, 2011). There is also the possibility of phone or video calling with the mentee. Video calls are important for the mentee and mentor to see each other and interact more personally and closely. For peer-mentoring relationships, it is important to have live conversations as people are more honest since they cannot premeditate their thoughts and mentees and mentors can build stronger relationships (Kaufman, Levine, Casella, & DuBois, 2021) (see Appendix 7).

The community feature on the app is a forum where all the mentors and mentees have access and can post, comment and like each other's posts. With likes and comments, mentees can interact with each other and feel a community presence. Mentees are encouraged to share, for example, recent accomplishments, thoughts, interesting ideas or curiosities with the community. The community forum aims to provide an environment for safe sharing and show the mentees that their issues are normal and that they are heard and understood by others. Mentors are also instructed to share their experiences or feed the forum with funny memes, interesting facts or tips to keep the forum moving and updated. A support system is important to maintain a healthy mental state and reduce anxiety (Kaufman, Levine, Casella, & DuBois, 2021) (see Appendix 8).



Figure 7 - Partner-Up Daily reflection, Chat room, Video call and Community forum

Moving on to the mentor-specific features of the app. Mentors also have their personalised homepage with a shortcut section to the chat room with the mentee and call. Additionally, there is a section with the mentee's Daily Reflection answer to inform the mentor of the mentee's state of mind of that day. It also has buttons for storing the previous Daily Reflections done by the mentee, where the mentor can see the progression of the mentee, and for other tools like specific questionnaires that can help assess some issues in more depth, for example, a mental health assessment questionnaire. It also has the quote of the day feature. The chat, video call and community pages remain the same as the mentee chat (see Appendix 11).



Figure 8 - Partner-Up Mentor's homepage, Chat room & Video call

The profile on the mentee side of the app features some basic profile information (name and email), a mentor bio with some curiosities and a shortcut for the chat and call, information about privacy, help and a button to exit the account (see Appendix 12). Finally, if the mentors feel they need a more detailed mental health assessment, mentors have a biweekly questionnaire tool that can be sent to mentees This questionnaire has

more specific questions that target teens' emotions and feeling (World Health Organization, 2010) (see Appendix 13 and 14).

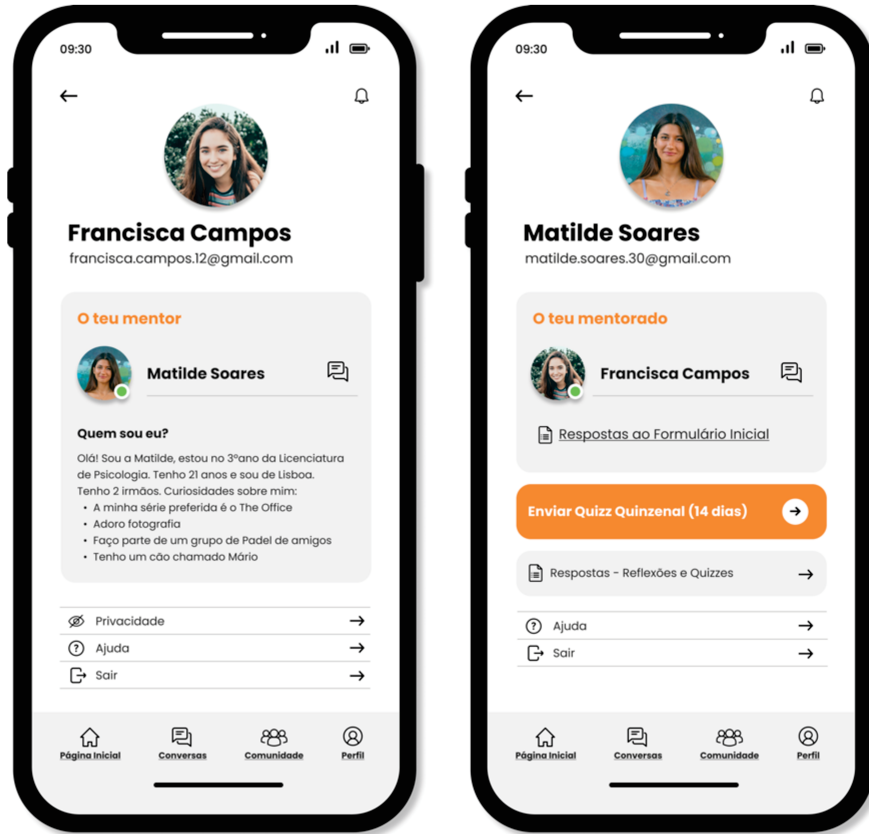


Figure 9 - Partner-Up Mentee & mentor profile

Each mentor will have assigned one or two mentees at a time. This way, mentors can be fully focused on their mentees and have the availability to answer their messages and calls. The mentors will be provided with a mentor guide, developed by the Team Leader, a professor from Universidade Católica Portuguesa. This will teach mentors the basics of peer mentorship, which steps to follow along the program, how to respond to the mentees' issues and help them establish a healthy relationship with the mentees. Their relationship ends when the mentor decides, after consideration with the team leader, that the mentee no longer needs the mentor's counselling.

Chapter 5 – Business Plan

5.1. Business Overview

In addition to what was exposed in Chapter 2, the Partner-Up app is a part of the mobile health app market. This mHealth market is expected to increase from 36 430 million dollars in 2021 to 46 700 million euros this year at a compound annual growth rate (CAGR) of 25.3% (TBRC Business Research PVT LTD, 2022).

The Partner-Up app is a mobile health peer-mentoring app that promotes peer-mentoring relationships between struggling teens and psychology students. The app has two target segments: the mentors (psychology students) and the mentees (struggling teens). The mentee segment corresponds to teens that are struggling with issues that are affecting their mental health and feel like they can benefit from a mentor, a counsel that understands their experiences and issues. The app offers a daily reflection log, a chat room for conversations with their mentor, a community blog to share and read others' accomplishments or worries, and finally a daily motivational quote. Partner-Up wants to help struggling teens that, for example, don't have the means to access professional therapy, are too shy to discuss with adults or don't think their issues are important for professional help. The app offers an informal, friendly and safe environment to have a close "friend", the mentor, that listens to your issues and helps to deconstruct them into making their life happier.

The mentor segment corresponds to the students enrolled in the master's Degree in the Psychology of Well-being and Health Promotion and finalists of the Psychology undergraduate course at FCH – Católica that will join the app as mentors and will carry the responsibility of accompanying the mentees in their mental health journey. Mentors will benefit from joining this program regarding the volunteer experience, the opportunity to use their knowledge and skills and to improve their curriculum. Mentors have different features that can track the mentee's journey and give access to their form, quizzes and daily reflections answers. This way Partner-Up offers mentors a way to evaluate and access their mentee issues to be prepared to approach them. The rest of the features, like the chat room and the community, is the same as the mentee side of the app.

5.2. Environment Analysis

A macro and microenvironment analysis was carried out to gain a better understanding of the difficulties that lie ahead. Partner-Up will be active in Portugal, so we have concentrated on the local market. The macro-environment is made up of indirect elements that could affect how successful the organisation is. PEST analysis, which stands for Political, Economic, Socio-Cultural, and Technological factors, was chosen as the method. PEST analysis is used to assess and comprehend the macro-environmental elements that have the potential to affect a company's performance significantly. When launching a new business or entering a market, this tool is extremely helpful. To give a clear view of the internal and external aspects, it is frequently used in conjunction with other analytical methods, such as the SWOT analysis that will be discussed further on (Sammut-Bonnici & Galea, 2015).

5.2.1. PEST Analysis

Political Factors

With a democratically elected government and a socialist ruling party (Partido Socialista) in place in Portugal since 2015, the country's political landscape is currently comparatively stable. The minimum salary has been increased to 705 euros as part of the 2022 National Budget.

Portugal has one of Europe's highest taxation regimes for businesses and individuals in terms of financial authority. The corporation must pay 21% of Company Income Tax (IRC - Imposto Sobre o Rendimento das Pessoas Coletivas), 23.75% of each employee's wage as social security payment (TSU - Taxa Social unica), and 23% of VAT (Value Added Tax) on consumer goods (Caetano & Novais, 2019).

New projects can be advanced with financial and technical support through programs like Investe Jovem, a program that promotes entrepreneurship for young people (User, n.d.), and Programa Empreende XXI, also a financial program, among many others. Estratégia Nacional para o Empreendedorismo - StartUp Portugal, which includes a collection of measures carried out by numerous organizations including the IAPMEI (Agência para a

Competitividade e Inovação), a government agency for funding and innovation, and IFD, among others, is in charge of leading these initiatives.

Regarding data protection, in April 1991, Portugal's first law that focused on protecting personal data appeared, law nº 10/91. It is through this law that a regulatory authority specialised in protecting computer data is created. This law was later updated to respond to market needs and the growing need to share data across borders.

The speed with which technology has evolved in recent decades has transformed the global communications landscape. Nowadays, there are new ways of sharing information, such as social networks or even storing information in the cloud. Alongside these new practices, personal data has become an extremely valuable asset for countless companies. In the spectrum of all users, certain groups are more vulnerable than others, such as users belonging to younger or older age groups, where the notion of computer security tends to fade, and security practices are often non-existent (Rivera, 2022).

To ensure a high level of data protection, restore user confidence and maximise the potential of the digital economy, encouraging economic growth and the competitiveness of EU companies, it was necessary to adopt Directive 95/46/EC, representing a historic milestone in terms of personal data protection in Europe. With its entry into force almost twenty years ago, its objectives are still as valid now as at the beginning, ensuring the functioning of the European single market, as well as the effective protection of the rights and freedoms of individuals. This new legislative framework covers rules tailored to a single digital market (“Protection of Personal Data,” n.d.).

Economic Factors

By 2028, compared to 2021, the size of the global market for mobile health apps is anticipated to reach millions. The market is expected to reach 133 250 million dollars in 2026 (The Business Research Company, 2022). The global mHealth apps market is divided by app type into disease and treatment management, wellness management, and others (The Business Research Company, 2022). The mHealth app market is anticipated to advance due to the growing popularity of mHealth applications and their benefits in improving patient illness states.

The usage of mHealth applications is expected to increase over time as a result of healthcare professionals' attitudes toward mobile health applications since around 93% of healthcare professionals think that patient health can be improved through mobile health applications. The usage of mHealth applications is expected to increase over time as a result of healthcare professionals' attitudes toward mobile health applications (Ericsson, 2020). The use of health applications is also being boosted by a rise in the number of mobile subscriptions and global internet penetration. For instance, the number of mobile subscriptions exceeded six billion, and this figure is expected to rise over the coming years. The market for mHealth is also anticipated to develop in the next years as a result of the rising use of social media and rising app promotions (Ericsson, 2020).

For instance, the DataReportal 2021 numbers state that 4 550 million people will be using social media by October 2021, or 57.6% of the world's population. Additionally, a rise in the use of mobile health applications has been seen during the COVID-19 pandemic. Government and non-government organisations supported the use of mobile health applications during the COVID-19 pandemic for education, symptom management on one's own, information sharing, contact tracing, risk assessment, home monitoring, and decision-making. For instance, the number of mobile health application downloads has increased by 65% since 2020 (DataReportal, 2022).

Portuguese health app market

In 2022, it is anticipated that the digital health market in Portugal will generate 288.20 million euros in revenue. Revenue is anticipated to rise at an average yearly rate of 7.89% (CAGR 2022-2027), with a predicted market volume of 421 300 million euros by 2027. Comparatively speaking, China will produce the majority of revenue, around 41,130.00 million euros, in 2022. Digital Fitness & Well-Being, which will generate total revenue of 162 700 million euros in 2022, will be the market's largest segment.

The European Union asserts a set of goals, including fostering economic growth and employment, that are directed to all regions of the EU. Portugal, being a part of the EU, is planned to receive financial aid (PRR - Plano de Recuperação e Resiliência) in the amount of roughly 16 643 million euros, which will help the nation's economy and prevent future debt growth. Digital Transitions and Innovation are one of the goals for the PRR and “Portugal 2030” funds that are allocated to businesses (Lopes, 2022).

Social Factors

The population's median age in Portugal is 46.9 years old, as 6.9% are between the ages of 5 and 12, 4.9% are between the ages of 13 and 17, and 7.4% are between the ages of 18 and 24. Over 8 million people in Portugal are considered frequent internet users, or 85% of the population. There is evidence of a growth of about 3% between 2021 and the start of 2022. Despite the widespread use of internet media, 15% of people are still not using it. In 2021, mobile network internet access "accelerated" by 60%, while fixed network internet access "accelerated" by 12% (Kemp, 2022). The average Portuguese person uses the internet for over 8 hours daily, spending 3h30 on mobile devices (70.7% Android, 28.7% iOS) and 4h30 on computers and tablets. As a result, there are 16.07 million more mobile phones in Portugal than there were people, as of the year's start, 10 150 million. Only 8 630 million people utilise the internet. It should be mentioned that many Portuguese people own multiple cell phones. However, Internet and social network users increased by 2.9% and 9%, respectively (Kemp, 2022).

Lisbon stands out among European capitals as the sixth with the largest centre of startups, only after London, Berlin, Paris, and Copenhagen, according to the Global Entrepreneurship Monitor (GEM) research. Lisbon is regarded as the European technical centre when it comes to innovation, and more and more major international players in the field are settling there, like Uber, Mercedes-Benz, Google, and Volkswagen. The Web Summit, the largest technology conference in Europe, has been held in the nation's capital since 2016 and is expected to continue there through at least 2028. The demand for qualified tech workers increased more quickly than the size of the IT (Information Technology) market. Brazilian workers are in high demand because of their abilities, willingness to relocate to Portugal, and fluency in Portuguese.

According to a study incorporated into the ISPUP researcher's project on health promotion, when looking at the Portuguese market during the COVID-19 pandemic, a quarter of the sample (26,9%) displayed indicators of anxiety, and another third (23,1%) had milder symptoms of worry. 17% of respondents showed moderately severe depressive symptoms, whereas 7% of respondents experienced depressive symptoms (Aguiar, Maia, Duarte, & Pinto, 2022).

Technological Factors

The market for mobile application development is still booming, and the sector is rapidly developing. The numbers speak for themselves: by 2027, it is predicted that the global market for mobile application development will have grown to 44 300 000 million dollars. (Kholin & Bitkina, 2022). Here are some of the trends that will be driving mobile app development in the upcoming years:

- (a) Super apps are a one-stop-shop that offer a variety of services to help customers handle a variety of problems. People find it much more convenient to use a super-app than several distinct apps to complete the same task. It follows that the need for super applications will only increase.
- (b) Easy access to education is becoming increasingly important in a society that is changing at an accelerated rate. The development of mobile educational apps is even more important than before in light of the COVID-19 pandemic. The main goal of mobile learning is to make it possible for users to acquire the necessary knowledge and skills while utilising mobile devices like computers, tablets, and smartphones.
- (c) By 2025, 5G connections are expected to account for 15% of mobile connections globally and 40% of all connections in Europe. The newest radio technology, the Fifth-Generation wireless cellular network (5G), seeks to boost mobile connectivity and enhance the whole smartphone experience for users. High-speed performance (5G is 100 times faster than 4G) is a benefit of 5G technology.
- (d) Voice recognition is a device's capacity to hear and understand spoken commands. Speech recognition technology lets users control devices and conduct online searches using voice commands.
- (e) Virtual reality (VR) and augmented reality (AR) are also two types of features that are expanding.
- (f) Another trend in mobile app development that will influence the market in 2022 is peer-to-peer apps. People can send money to others via P2P payment apps like PayPal or Venmo linked to their bank accounts or credit cards.
- (g) With the rise of cyberattacks, cybersecurity has become a top concern. A simple security breach can ruin an app's reputation and consumer trust. Therefore it is important to build a reliable and safe app.
- (h) In recent years, mobile commerce has experienced a notable upsurge, and in 2022, it will continue to gain ground.

5.3. Competitive Analysis

The competitive analysis was conducted by looking at the global and Portuguese-targeted mHealth app markets. To select the main competitors, it was important to look at which apps inside the mHealth app market offered counselling service, paid or free, popularity, if they had chat/video options in-built into the app, and if they offered more than just therapeutic services. After looking at the market through this criteria the main competitors were selected. The mobile app market is international since the internet provides no barriers. However, the Partner-Up app will have Portuguese as the main language.

29k FJN

The app 29k FJN consists of a partnership between the Swedish 29k Foundation, the world's first open-source platform for individual growth, and the José Neves Foundation (FJN) in co-creating the first free mental health training app for the Portuguese market. The José Neves Foundation is a non-profit Portuguese foundation founded by Farfetch Co-chairman & CEO José Neves to use its resources for developing education projects in Portugal (“App 29K FJN,” n.d.). The 29k Foundation is a Swedish foundation that has created the 29k open-source, non-profit tech platform that offers mental health treatment free and accessible to everyone (“29k - Your Own Place to Feel Better, Grow and Be Heard.,” n.d.).

The 29k FJN offers access to science-based tools to support the users’ mental health and personal development. The users can personalise their experience and access a supportive community. The app provides eight individual development courses, exercises based on the latest research, small activities to use anywhere and anytime, breathing, meditation and movement exercises, and support from other users via chat, audio and video. It also offers group chats where you can listen and exchange ideas with others, security available throughout the application, and content based on cognitive behavioural therapy (CBT) combined with a deep human connection (“App 29K FJN,” n.d.).

The app has partner-up with Portuguese role models like Catarina Furtado, UNICEF Goodwill Ambassador, Fátima Lopes (television host), Paula Amorim (Executive at Galp and Amorim Group) and others to act as ambassadors of the 29k FJN program.

The 29k FJN program has recently developed three new courses focused on young individuals. These courses have as ambassadors the singer Nenny, professional dancer António Casalinho, the finalist of The Voice Portugal Ritinha, and futsal player Zicky Té. The three new courses are "Managing Stress", "Building Relationships", and "Be Your Friend". These aim to help young people know how to deal with stressful situations and create relationships with others and themselves. Businesses in Portugal like Accenture, Bial, Galp, Farfetch and REN are dedicated to implementing this app and providing training to all staff members. The app is free for iOS and Android devices, without advertising or in-app purchases (Nunes, 2021).

P5 Saúde Mental

P5 Saúde Mental is a mental health self-monitoring and wellness app. This application was developed as part of the project “Promoting Mental Health During Pandemic” led by the Institute for Research in Life and Health Sciences (ICVS) of the School of Medicine of the University of Minho, under the coordination of Pedro Morgado. It allows the self-assessment of anxious and depressive symptoms and access to tools for emotional management, sleep improvement and adopting healthy lifestyles. Symptom self-assessment is performed using two instruments frequently used in clinical practice: the PHQ-9 to investigate the presence of depressive symptoms and the GAD-7 to investigate the presence of anxiety symptoms (Centro de Medicina Digital P5, 2022).

The goal is to help anyone who needs follow-up to self-assess and self-monitor symptoms, focusing on the two most common psychiatric illnesses: depression and anxiety. It is intended for the general population and is available for iOS and Android devices. It's free of charge, without advertising or in-app purchases (Centro de Medicina Digital P5, 2022).

Talkspace

Talkspace is an online therapy website and app that, based on its expertise, connects licensed therapists to users. A variety of mental health concerns, such as depression, anxiety and stress, parenting, trauma and bereavement, substance misuse, LGBTQIA+ specific subjects, eating disorders, and others, are addressed by licensed therapists who help individuals, couples, and teenagers (“Talkspace Online Therapy Review,” 2022).

People can choose a counsellor quickly and easily based on recommendations and ratings after completing a few questions and providing basic information. Depending on the person's circumstances or the type of therapy they are receiving, Talkspace will provide recommendations. Users of Talkspace have 24/7, 7-day access to a mental health specialist directly. Through scheduled live video sessions or chats, users can communicate with therapists. Additionally, clients can switch therapists until they locate the one that best suits their requirements. All conversations are private and safe (Morin, 2022).

A mix of plans is available, and pricing ranges from \$69 to \$109 per week, depending on which plan is chosen: messaging therapy plan; video and messaging therapy plan; video, messaging and workshop therapy plan. This app solution is accessible via a web browser and on Android and iOS devices. Talkspace is largely targeted at the US market and provides licensed therapists. Still, it is also accessible to anyone outside of the US as long as they have an internet connection (OnlineTherapy.com Experts, 2022).

BetterHelp

BetterHelp has been an online counselling platform since 2013. The company supports various difficulties like depression, anxiety, anger management, relationship troubles, and grieving through private, affordable counselling with certified therapists. Counselling support is available from BetterHelp to single, married, and young people. Users of BetterHelp can communicate with counsellors and receive support through texting, calling, or using video calls. Following several inquiries and a description of the type of support required, BetterHelp provides possible counsellor matches (“About Us - BetterHelp,” n.d.). The biographies of every BetterHelp therapist are readily available on the website, and they are all completely qualified and accredited. Which therapist the person chooses to work with is ultimately up to them. All counsellors are verified and must pass a case study test, a video interview, and other requirements in order to be approved on the platform. BetterHelp offers several programs, with monthly costs often falling between \$90 and \$120. There is no insurance support for this online counselling tool. This solution is accessible online and on both Android and iOS mobile devices (Morin, 2022).

Calm

In the domain of sleep and meditation, Calm is the most popular and recognised app. Both those who are just starting and those who have been battling for a while can benefit greatly from it. It is an all-encompassing platform with many options and a wonderful community. The two main divisions are awareness and sleep. Users can listen to bedtime stories read by famous people like Matthew McConaughey and LeBron James in the sleep module (“Experience Calm,” n.d.).

The mindfulness component is considerably more comprehensive; you can practice kindness, relationships, self-esteem, attention, gratitude, reducing stress and anxiety, and many other skills. There are, however, numerous other elements, such as flexibility drills, mindfulness master courses, relaxing music, sights, and noises. Users can monitor their advancement using daily streaks and attentive minutes. Calm provides a free 7-day trial with an annual membership of about \$70. The app can also be yours forever for approximately \$400 (Morin, 2022).

Moodfit

A free mental health software called Moodfit offers resources and advice to enhance each user's mood. Moodfit is intended to help users feel better whether they want to understand their feelings better or are dealing with anxiety, depression, or high-stress levels. Users that use Moodfit can monitor their mental health status. For example, you can keep a mood diary to keep track of your good and negative moods, a gratitude notebook to locate and remember the wonderful things in life, and sections on sleep and lifestyle to examine your eating, exercising, and socializing patterns (“Moodfit,” n.d.).

A questionnaire will identify the symptoms, and many articles and audio files that will assist you in comprehending what the person is going through. It also provides mood tracking to better understand how factors like sleep, medicine, and exercise affect your emotions. Additionally, users can adopt a more serious stance by engaging in cognitive behavioural therapy, getting their mental health evaluated, taking medication, and talking to therapists. In addition to breathing exercises, meditation, and daily self-care objectives, a proactive approach to maintaining mental health is also included. The program provides personalised reports, reminders, and suggestions based on the information from your

journal. Additionally, Moodfit delivers its services to businesses that seek to support a positive work environment and employee mental health (Morin, 2022).

The software can be customized by users to reflect their goals and allow them to monitor daily progress. The software does not provide access to professionals, which could encourage users to self-diagnose, and certain advanced capabilities come at extra expense. Both iOS and Android users can download the app (“Moodfit,” n.d.).

Competitor	App type	Therapeutic treatment	Video or chat features	Pricing	Main Strength	Main Weakness
29K FJN	Tools & Support mental health and personal development	Yes	Pre-recorded videos	Free	Well-rounded app with good quality & vast tool offer in Portuguese	Lacks access to professional therapists
P5 Saúde Mental	Tools & Monitoring for mental wellbeing	No	No	Free	Free access	Very basic UX & tools
Talkspace	Therapy & Counseling	Yes	Live video calls & chat room	Weekly subscription plan. From €69 to €109	Personalised match experience with live access to therapy live sessions with professionals	High cost
BetterHelp	Therapy & Counseling	Yes	Live video calls & chat room	Four week subscription plan.	Multiple communication methods with license therapist	Only one subscription plan available

				From €242 to €605		
Moodfit	Tools & Monitoring for mental wellbeing	No	No	Free	Customizable based on user needs and goals	Lacks access to professional help
Calm	Sleep & Meditation	No	Pre-recorded videos	7-day free trial. Annual subscription plan of €70	Simple to follow & vast offer of exercises	Need a subscription

Table 2 - Partner-Up competitor summary

Analysing all the characteristics presented, the 29k FJN app is the main direct competitor of Partner-Up. 29k FJN offers different services as Partner-Up. However, it's the main player that provides a service in Portuguese, and it's specially targeted at the Portuguese market. BetterHelp is Partner-Up's main direct competitor since it provides live counselling sessions through video and messaging and offers a personalised experience by matching users with therapists. However, it is a paid app with a subscription plan. Since it presents features like the live video conversation and messaging option, the main direct competitor focuses on matching the best.

	Strengths	Weaknesses
Internal Analysis	- An innovative concept of mental health apps, that employ undergrad students that have and are learning therapeutic skills to counsel struggling	- It offers counselling services provided by students and not professionals. - For the peer-mentorship program to work properly it relies on the interest and motivation of the psychology

	<p>young people through the convenience of an app.</p> <ul style="list-style-type: none"> - It offers a mutually beneficial relationship between the two users: mentors & mentees. Mentees can put into practice their psychology. knowledge and tools while mentees can benefit from their counselling in a more informal, familiar and easy way. - More than counselling and sharing therapeutic tools, the app provides a safe space for both parties to share personal experiences and develop a friendly relationship. - Portuguese-spoken counselling app is focused on the Portuguese market and is in partnership with a renowned Portuguese university. 	<p>students and the supervision and time of the invited professors.</p> <ul style="list-style-type: none"> - The university partnership can create barriers to future opportunities and developments that the project team might want to pursue. - Young mentees might share more serious issues that go beyond the mentor's counselling ability.
	Opportunities	Threats
External Analysis	<ul style="list-style-type: none"> - Unfortunately, the COVID-19 pandemic has caused a lot of distress in young people's mental health opening up new opportunities for mental health counselling programs. - Students are available and are looking to enrich their Curriculum with volunteer experiences. - Most of the mental health apps with personalised counselling, using messaging and video sessions are paid. This creates a market opportunity to 	<ul style="list-style-type: none"> - Developing an app is quite expensive and IT professionals are highly requested. - It's a new and different concept to support youth mental health and it might not be attractive to everyone. - Since the app offers all services free, getting funding and developing partnerships can be

	<p>deliver a free alternative like the Partner-Up app.</p>	
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Table 3 - Partner-Up SWOT Analysis

In conclusion, looking at the market analysis there is no app that offers free personalized council with video and chat features like Partner-Up. Our app offers a personalized experience and fully committed mentors in following and council, within their expertise and knowledge. Also, there is no app that has this mutual benefit between the two users: mentees have free counsel and mentorship by student mentees that want to practice and volunteer within their field of study. Even though Partner-Up offers a council service provided by a psychology student and not a professional therapist like other apps, the free service is one of the main advantages of the app.

5.4. Financial Review

Partner-Up is a non-profit association, that will require funding and investment of a total of €240 000 in capital. In Y0, to quick-off the app development, licencing and company set-up it will need around €65 000 capital. Since Partner-Up offers a free service, so for the following business years, with a three-year projection, it will require an additional €176 000 (see Appendix 15).

For funding and investment, Partner-Up will apply for funding through the program Portugal 2030, a European funding program for economic development and innovation, and through the PRR - Plano Recuperação e Resiliência, also a Portuguese funding program powered by Next Generation EU funds (Recuperar Portugal, 2022). Also, Universidade Católica Portuguesa will be Partner-Up main sponsor and partner, benefiting from the good publicity for associating with a digital start-up that focuses on public youth mental health.

The expenses with marketing, are associated with branding, merchandise and other related expenses. Sponsorships, brand collaborations and the ambassador's partnerships with Partner-Up will be negotiated as a volunteer endorsement. For the app development and maintenance service of the app, Partner-Up will resort to an outsourcing software

development company. This decision is based on a cost-saving strategy and the resources and know-how of the company and developers.

In terms of Payroll, the company will require in the Y0 an amount of €35 392,50, for the project manager (myself) that will be responsible for funding and supervising the app development and the Team Leader, a university professor that will help structure and develop the mentorship guide and mentor guidance. For the following years, the company will hire one extra Team leader per year and offer better compensation according to the work capacity (see Appendix 16). The Team Leaders will give guidance and coordinate mentors and the Project Manager will be in charge of Marketing and Communication and Business Development.

Partner-Up understands that the investment in this project is of a significant amount. However, we feel that investing in Partner-Up is part of the digital transformation and mental health awareness of all aspects of the “Portugal 2030” goals and mission. Also, the collaboration with Universidade Católica Portuguesa with a mental health volunteering app will act on the Corporate social responsibility (CSR) of the university, with advantages like greater brand awareness, good reputation, greater access to investment, opportunity to offer a volunteer experience to their students and a new feature to their undergraduate and master courses.

Chapter 6 - Marketing and Communication Plan

From the market research covered in the previous chapter, we can determine a gap in the mHealth app market for an app like Partner-Up. Looking specifically to the Portuguese competitors, like 29k FJN, which offers a free variety of mental health tools, Partner-Up provides a one-to-one guided council through communication features (chat, phone or video) and a community page. The social interaction between mentor and mentees is important to keep the conversation flowing and the mentees comfortable. Also, due to the COVID-19 pandemic, social interaction can be challenging. Partner-Up mentors can encourage phone/video calls with mentees and help them overcome some issues related to interactions. Furthermore, none of the apps in the mHealth market is focused on peer mentoring and has as the council provider students, other groups of young people, or volunteers. Partner-Up also takes advantage of this available group to mutually benefit the mentee and mentor with counsel and learning experience. This chapter will approach Partner-Up's consumer analysis, branding strategy and marketing mix.

6.1. Consumer Analysis

6.1.1. Segmentation

Every brand needs to keep segmentation in mind as a critical component. To whom are we speaking? What is the primary goal? The goal of segmentation is to divide the diverse market into smaller groups that have similar traits, passions, and needs (Kotler et al., 2016). It is a tactic used in marketing strategies. Determining which groups could be interested in Partner-Up allows us to modify our approach and improve communication.

Partner-Up has two main users, mentors and mentees. Since Partner-Up is a technological service, a suitable way to segment the potential users is by generation. This segment strategy gives detail on demographic, psychographic and behavioural characteristics (Schewe & Meredith, 2004). Other important characteristics need to be added since generation does not cover occupation and location. The segmentation will be divided between mentors and mentees, the two users and participants in peer mentoring.

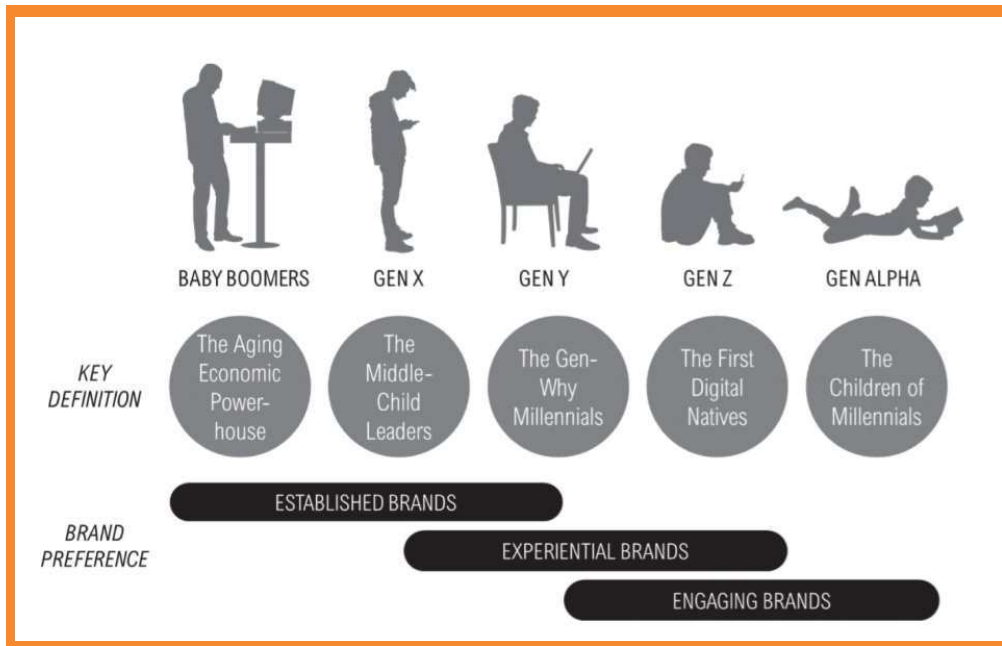


Figure 10 - Generations and Brand preference (Kotler, 2016)

A. Mentor Segmentation

Generation Z

According to Kotler, Generation Z, often referred to as the Centennials, is the generation that comprises the majority of today's population and was born between 1997 and 2009. Because they were born at a time when the internet was already becoming widely used, they are referenced as the first generation of digital natives (Kotler et al., 2016).

Gen Z perceives no distinction between online and offline since they were exposed to the internet very young. This generation prefers real-life authenticity in their internet content and dislikes things that are too flawless or carefully controlled. Additionally, rather than celebrity endorsements, they are more likely to be persuaded by the recommendations of actual users.

Gen Z is aware that labour is done for monetary gain. Even if it isn't their excellent work, they'll take employment that offers a reliable salary and vital benefits. In contrast to earlier generations that named economic development as a primary area of concern, Gen Z is primarily engaged in issues that address poverty and hunger. The environment, human rights, health, and education are some issues they promote. They are politically

progressive, supporting issues like the LGBTQ+ rights movement and seeing it as a positive development for society.

Gen Z enjoys in-person communication and frequently uses FaceTime or Skype programs. Their personal lives are on display, and they frequently use many screens to absorb content. Eating dinner, watching TV on a streaming service, and using social media to communicate are typical. They consume everything online, including news, shopping, educational materials, and entertainment. They are eager to share their personal information to receive tailored material that suits their needs.

This Generation was deeply affected by the COVID-19 pandemic, with mandatory confinement and restriction were deprived of going to school and university, enjoying their social life, building friendships and enjoying a social life (Lobe et al., 2021). They have suffered loneliness, depression, and anxiety (Cooper et al., 2021). Since they regain their life as best as possible, COVID-19 has impacted their lives emotionally, which can turn into empathy for others who are still struggling.

Occupation & Location

Mentors are students enrolled in the master's Degree in the Psychology of Well-being and Health Promotion and finalists of the Psychology undergraduate course at FCH – Universidade Católica Portuguesa. They are specifically from a Psychology background because they will be playing the role of mentor in mental health and well-being. Also, they are students from Universidade Católica Portuguesa since this project will have as its main partner the university (it will be explained in more depth below).

B. Mentee Segmentation

Generation Z & Generation Alpha

Generation Z was previously explained in the Mentor segmentation, and it's included in the mentee segmentation because mentees' age goes from 12 to 18 years old. This age gap was chosen based on market research and the literature review studies that focused on this age range to present how COVID-19 affected youth mental health.

Additionally, in 2010, which also saw the debut of Instagram and the first iPad, Generation Alpha emerged. The Generation started in 2010, and the final members will be born in 2024 because generations endure 15 years on average. They were born with screens all around them and are already deeply embedded in the digital world, following in the footsteps of their gen Z antecedents. Generation Alpha is defined by technological devices like smartphones and tablets, video games, driverless trains, autonomous cars and smart speakers that speak back to you. Generation Alpha are the most materially endowed and empowered generation ever. They have been shaped in an era of individualisation and customisation.

They are more formally educated yet less proficient in practical skills, assessing risk, setting and achieving goals, and developing hands-on competencies. This is going to be a generation that will live longer, work later will, be more formally educated, materially endowed and globally, will be the wealthiest generation to date. Generation Alpha will be emerging into the workforce when well-being will be at the top of the agenda.

The COVID-19 pandemic also affected this generation, as teens had to spend more time at home, having online school, being away from their friends and more time with their parents inside their homes. Parental mental health difficulties lead to negative interactions between the parents and the children. Being more isolated, without school to be with friends, children got socially anxious and depressed (O'Sullivan et al., 2021). Also, losing a loved one during this pandemic has deeply impacted families and teens (Marques De Miranda et al., 2020).

Occupation & Location

Mentees are middle and high-school students from the Lisbon area. They are restricted to the Lisbon area since the mentors are also from Lisbon, being able to have that in common and can relate socially.

6.1.2. Targeting

The target of Partner-Up, as said before, is divided into two users, the mentors and the mentees. As said before, mentors are students between 21 and 25 years old, enrolled in the master's Degree in the Psychology of Well-being and Health Promotion and finalists

of the Psychology undergraduate course at FCH – Universidade Católica Portuguesa. They are familiar with mental and well-being issues, are socially conscious and are aware of the COVID-19 struggles that youth has faced because they probably have suffered the same. Also, they are students, so they are excited to share their knowledge, learn new skills and build their curriculum with experience and volunteer programs.

The mentees are middle and high-school students between the ages of 12 and 18 who frequent a school in the Lisbon area. They are usually teens who have suffered mentally from the COVID-19 pandemic and have developed mental health issues like anxiety, depression, loneliness, social anxiety, and troubles at home, among other topics. These teens want someone they can talk to and help them through life together.

6.1.3. Personas

Personas are used to help better understand the prospects and potential customers on a more personal level. These are fictional characters created to mimic the real user. They are made using profiles containing the fundamental demographic data discovered through research. The client group represented by these profiles has comparable beliefs, habits, and objectives (Kotler et al., 2016). Here are two personals, a mentor named Francisco and a mentee named Mafalda.

		
User	Mentor	Mentee
Name	Francisco Correia	Mafalda Melo
Age	22 years old	15 years old
Location	Lisbon	Lisbon

Job	University student	High school student
Lifestyle	<p>Francisco is originally from Évora and moved to Lisbon because of his parents' work when he went to the 11^o grade. He fell in love with the human mind and chose Psychology as his bachelor's degree. He is now in his 1^o year in the master's Degree in the Psychology of Wellbeing and Health Promotion at Católica University. He has a younger sister and a dog name Mário. He's part of a football league with his friends and likes to play padel with his dad on the weekends. His first year in Lisbon was a bit hard since he left his friends and struggled to make new friends.</p>	<p>Mafalda is originally from Beja and moved to Lisbon last year because of COVID-19 since her father had to be relocated because of his job. She is in the 9^o grade and chose Science as her field of study in High School. She loves Biology but is still unsure what to pursue at the University. Mafalda really likes to cook and learn new recipes from social media. She has a younger brother and a dog named Estrela. On the weekends, she usually spends time with her family. Moving to a new school has not been easy for Mafalda. She has had a hard time making new friends and is still very much attached to her Beja friends.</p>
Interests	<ul style="list-style-type: none"> - Football - Padel - Hanging out with friends - Going on walks with his dog Mário - Favourite series: The Office - Favourite movie: Anything Marvel - Social media: Instagram and TikTok - Streaming: Spotify (Music & Podcast), Netflix and HBO - YouTube for live concerts - Volunteer at REFOOD - Since COVID-19, he sometimes uses the Calm app to sleep better. 	<ul style="list-style-type: none"> - Cooking with her family - Going to the beach with her dog Estrela - Going for ice cream every Saturday with her family - Favourite show: MasterChef - Favourite movie: Avengers Endgame - Social media: Instagram and TikTok - Streaming: Spotify (music) and Netflix - YouTube to watch random videos

<p>Benefits</p>	<ul style="list-style-type: none"> - Making a difference in someone's life by sharing his own experience - Being able to practice his knowledge in a real-life situation - Doing volunteer work in his field of study - Being part of a community - Building a friendly relationship with someone - Create awareness for mental health issues 	<ul style="list-style-type: none"> - Mafalda got to accept her life and make new friends - Gain a new friend that understood her and gave reliable advice - Became part of a community and felt like she wasn't alone anymore - Express her feeling and reflect on them every day - Her screentime was better used
<p>User journey</p>	<p>Partner-Up app was first presented to Francisco by the project leader, who gave a brief presentation at one of his classes. He later started seeing some posters on campus and was curious to join the project. He contacted the recruitment responsible and scheduled an interview. He was later accepted and got a meeting and briefing with the Partner-Up team leader. After getting his user and password, he was ready to start. He was assigned to Mafalda to be his mentor.</p> <p>The conversation started slow, but they soon jumped to video call. Francisco scheduled a twice-a-week chat with Francisca to set a routine, but Francisco was always available for any issue Mafalda might add. He encourages Mafalda to complete the Daily Reflection in order +for him</p>	<p>Mafalda got to know Partner-Up through a mention from one of our Ambassadors whom she follows on Instagram. She got interested in the idea of having a mentor, like an older sibling, that could understand her social isolation and a hard time making friends at her new school. She downloaded the app, logged in, filled out the questionnaire and was assigned Francisco as her mentor. She was kind of sceptical about the app but a few moments later Francisco messaged her saying welcoming her and congratulating her on joining the app and giving her the first step to a better life. Every day, Mafalda did her Daily Reflection and usually after that Francisco would message her to know how was everything. Mafalda got more comfortable and they schedule talking twice a week via video call. Francisco</p>

	<p>to be aware of her mood. Francisco helped Mafalda with her friendship issues by sharing his own experience and following her journey in making friends at the new school. In the Community forum on the app, he often shares links for cool videos about well-being and funny memes and jokes. He likes to encourage Mafalda to share and comment on others' posts.</p>	<p>helped Mafalda embrace her new life in Lisbon, she started to make new friends by joining the volleyball team at school and she begin to get together at her house where she showed off her cooking skills.</p>
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Table 4 - Partner-Up Personas

6.1.4. Consumer Value Hierarchy

Businesses of all sizes have resorted to this system of worth to determine customer satisfaction (Guo, 2008). The consumer value hierarchy is made up of five levels, each of which increases the value to the customer:

- Core benefit: is the service or benefits the consumer is really buying.
- Basic product: It includes making an offer to a customer. It offers specifications for products that must be met.
- Expected product: It includes qualities and requirements that consumers anticipate from products.
- Augmented product: The additional advantages and services are what go above and beyond to please clients. By exceeding their client’s expectations, they please them.
- Potential product: The potential product that the marketer needs to look for in the future operation is at level five.

As previously presented, Partner-Up has two different segments of consumers, mentors and mentees, from different generations. The core benefit of the product is distinct for each segment. For mentees, improving their mental health and being a part of a community is beneficial. For mentors, it is the opportunity to be challenged in using their

learned skills and volunteering to do a good deed by helping someone who lacks support. Therefore, there are two consumer value hierarchies in place, showcased below.

	Core benefit	Basic product	Expected product	Augmented product	Potential product
Partner- Up Mentee segment	Mental health & Community	<ul style="list-style-type: none"> - Assigned mentor - Daily Reflection - Chat room, phone and video calls - Community forum -Daily quotes 	<ul style="list-style-type: none"> - Available and interested mentor - A full-functioning chat room with good phone and video call experience - An updated community forum with regular posts - Updated tools and well-functioning questionnaires 	<ul style="list-style-type: none"> - Mentor’s commitment and persistence in contacting and hearing the mentee - Quality video calls through the app - Likes and comments on the community forum - Personalized homepage 	<ul style="list-style-type: none"> - Video series on different mental health topics - AR integration in mental health assessment
Partner- Up Mentor segment	Volunteer work & Skill practice	<ul style="list-style-type: none"> - Assigned mentee - Mentee’s answers to the questionnaires - Chat room, phone and video calls - Community forum 	<ul style="list-style-type: none"> - Interested and available mentee - A full-functioning chat room with good phone and video call experience 	<ul style="list-style-type: none"> - A feeling of accomplishment as the mentee progresses in improving his mental health - Support of other mentors and mutual help 	<ul style="list-style-type: none"> - AR integration in mental health assessment - More tools to help guide the mentees

		<ul style="list-style-type: none"> - Mentor's booklet - Team leader guidance and support from mentors community 	<ul style="list-style-type: none"> - Available team leader & mentors community 	<ul style="list-style-type: none"> - Community forum interaction and sharing 	
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Table 5 - Partner-Up Consumer Value Hierarchy

6.2. Positioning and Differentiation

6.2.1. Positioning

Brand positioning is described in marketing literature as the way consumers experience the brand (Kotler et al. 2016) and the overall impression that consumers have of a brand. This impression is frequently created by a distinctive collection of associations in the minds of target customers.

Partner-Up wants to be close to its users. The graph below focuses on the mentee consumer segment since there is no other app like Partner-Up, a mHealth app with volunteer mentors. For the positioning chart below, there are two variables: price and personalised counselling. Looking at the chart, Partner-Up is the app that offers the most personalised counselling for free. The main competitor, 29k FJN, it's also free, but personalised counselling is inferior. Talkspace and BetterHelp offer only subscription plans for their services but have similar personalised counselling to Partner-Up.

In sum, the company that operates in the same space as Partner-Up is 29k FJN app. Both apps are free and share personalised and curated content to attract users.

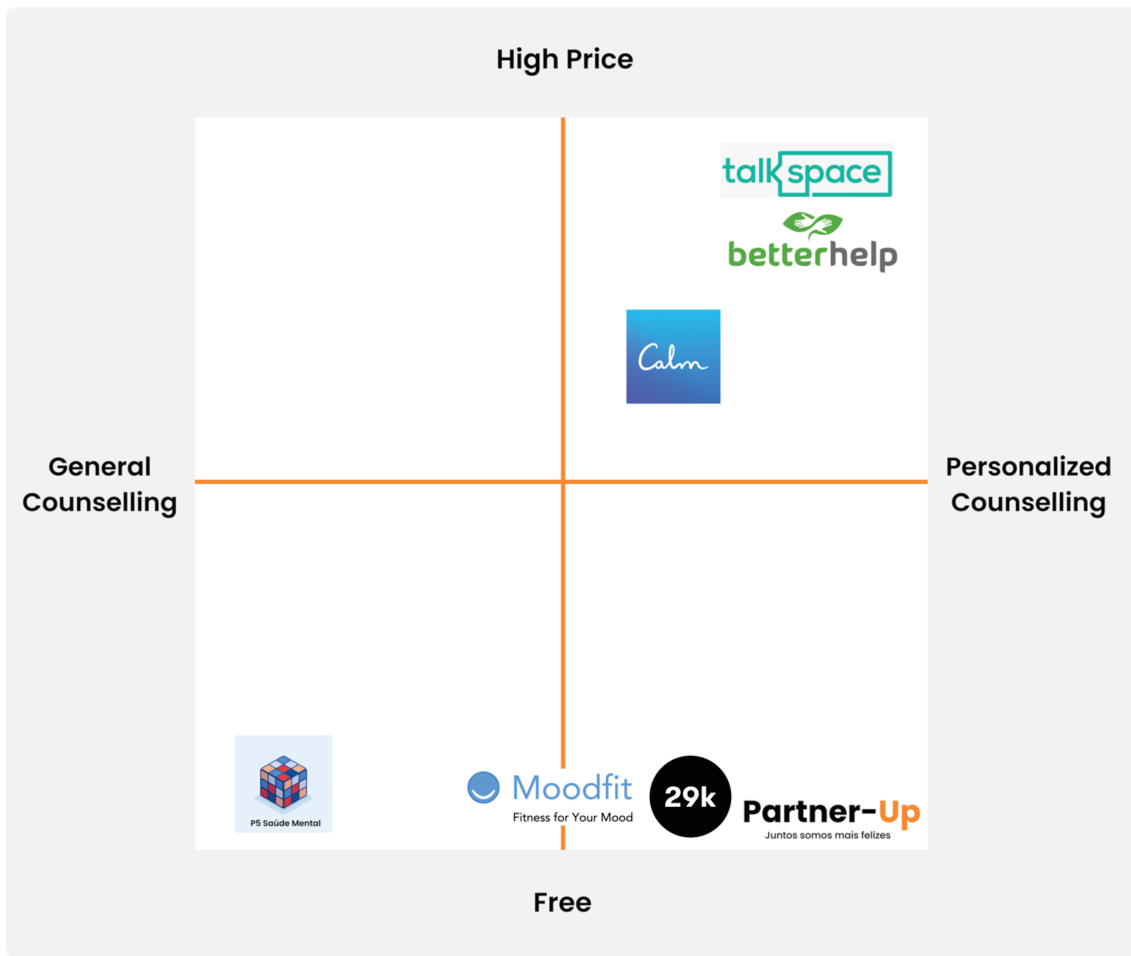


Figure 11 - Partner-Up Positioning

6.2.2. Differentiation

Partner-Up differentiation factor from the other mHealth platforms is the peer-mentoring personalised counselling. Partner-Up aims to offer struggling teens the opportunity to be happier and allow excited university students who are ready to help become their mentors. Partner-Up gives options for both sides, improved mental health and a more joyful life to the mentees and mentors to give back by using the tools they have been learning in preparation for their future. This project gives the advantage of experience and curriculum to these students. This mutual help between mentees and mentors is what sets this app apart. Young people are helping younger people be happier, building a partnership, and being a part of a community that is going through the same things and doesn't want to be alone. The community feature is also a differentiator factor. Partner-Up has a community forum that lets mentees and mentors share and interact via likes and comments.

6.3. Brand DNA

The app's name, Partner-Up, combines the words “Partner” and “Up” with a hyphen. The word “Partner” is referred to “a pair of people engaged together in the same activity”, and the word “Up” is defined as “towards a higher place or position” (Oxford Dictionary, 2022). The phrase “Partner up!” is often used as a quick way to command a group of people to find a partner. It’s also very common in a school setting, for example, in English class, where students have to grab a partner for activities. Therefore, using these two words for the app's name made sense, which works as a known expression in English. It’s an English name to fit with the globalisation and modernity of the mobile app market.

The Partner-Up mission is to match every struggling teen with a mature, more experient, but at the same time relatable mental health and well-being partner. Partner-Up believes everyone deserves to feel happy, safe and heard by someone who cares and understands their battles and issues. Partner-Up vision focus on stating that caring for your mental health and well-being should be a priority, and help shouldn’t come at a cost. Partner-Up cares to normalise taking care of each personal mental well-being. Finally, the brand's values are the promotion and focus on mental well-being through collaboration between mentors and mentees that are excited to grow together, respect for one another and acceptance in dealing with any situation.

Mission	Partners in caring for mental health & wellbeing
Vision	Let’s prioritise our wellbeing, together as a community
Values	Mental health, partnership, acceptance, growth and respect

Table 6 - Partner-Up Mission, Vision and Values

6.3.2. The Golden Circle

The Golden Circle theory argues that today's most prosperous businesses consider advantages beyond the straightforward, logical advantages of the goods and services they provide.

The Golden Circle theory argues that today's most prosperous businesses consider advantages beyond the straightforward, logical advantages of the goods and services they provide. This theory, by Simon Sinek, is divided into the “Why”, which represents the purpose of the company, the “How” explains the process the company undertakes to achieve the goal and the “What”, which can be the products and services, that a company offers (Frediani, 2022).

To clarify why certain people and organisations are more effective at inspiring others and successfully differentiating themselves, Sinek developed the Golden Circle model. He believed that people buy products not for what they do but for why they do it. By joining the app, individuals are not only caring for their mental health. Still, they are engaging with a mentor that cares for their troubles, is building relationships and is part of a community that supports and celebrates them. The figure below represents Partner-Up’s golden circle.

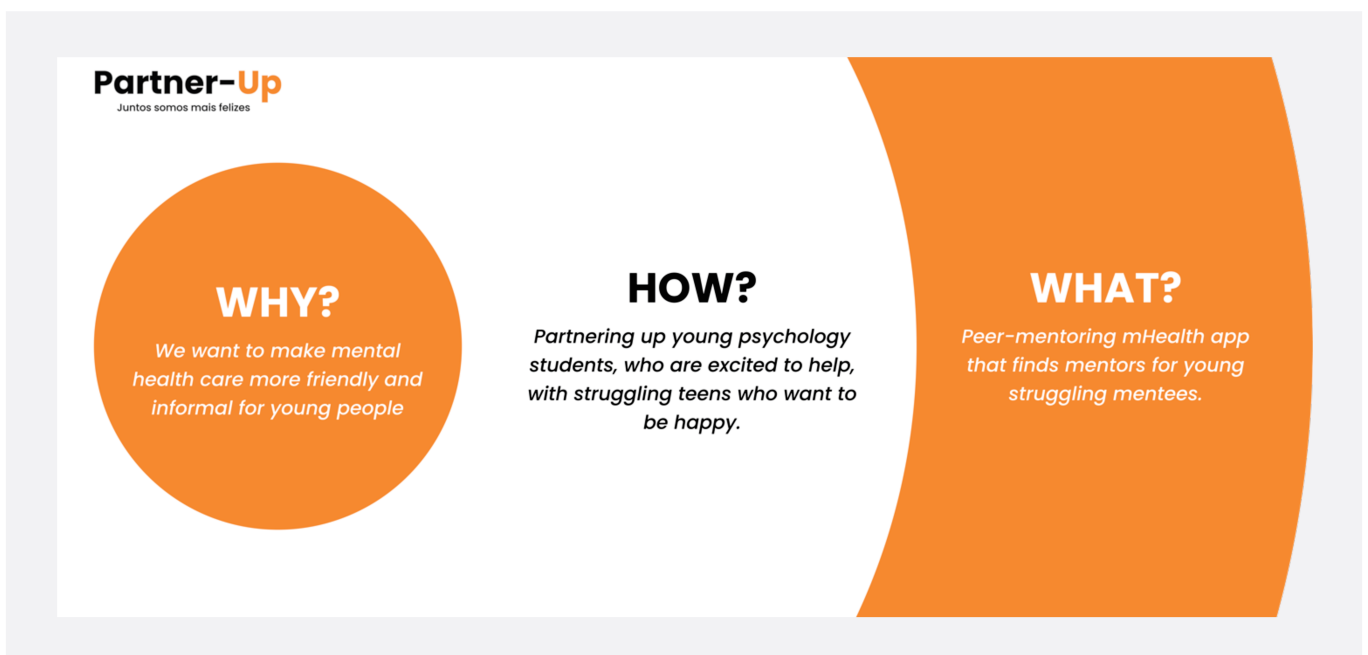


Figure 12 - Partner-Up Golden Circle

6.3.2. Functional and Symbolic Dimensions

In the DNA analysis, the perception of the brand's value at the symbolic and functional levels is essential. This happens in two dimensions: a tangible value usually attributed to

a product or service, like the app, the chat room or the community forum. Also, the intangible dimension is attributed, for example, to the company values. However, for this to occur, there must be alignment between the brand's functional (what it is) and symbolic (what it means to consumers and potential consumers) dimensions.

As a result, the functional aspect is related to the advantages of the product's functionality, which is the mobile application itself. In its practical core dimension, the mobile application is a platform for chat and video calls to an assigned mentor and a community forum where users can share and comment on posts. Other aspects of the platform performance can be considered, the daily reflection questionnaire, different tools, and the app design with a fluid and fun to keep users engaged.

Partner-Up app is more than just its functionalities of chatting with the mentor, answer a daily questionnaire and liking posts on the community forum. Partner-Up is about being together in each personal journey towards healthy mental health. It's about not feeling alone in everyday battles and relying on a close friend that cares to listen. It provides a safe environment for mentees to share and be themselves and hopefully become more authentic to themselves in their life.

6.4. Marketing Mix

6.4.1 Product, Pricing and Place

A product is a good or service that a business gives to customers. A product can be made available to customers for their consideration, purchase, or consumption and satisfies a need or a want (Kotler et al., 2016). The price of a product to the client is what the customer must pay, or its price. Price is thought to have the greatest impact on a consumer's decision (Kotler et al., 2016). Place alludes to the product's accessibility to the intended customers (Kotler et al., 2016).

All smartphone users can download the software because it will be available in both the Apple and Google app stores. The corporation must pay a one-time fee to the Google store and a yearly cost to the Apple store. The software has no in-app purchases and is

free to download and use. As a result, a larger and more varied audience may use the app to its fullest potential.

Partner-Up will be able to offer a free service because it will be funded by governmental funding programs and will benefit from a partnership with Universidade Católica Portuguesa. Universidade Católica has its own fundraising and sponsor network, like companies, benefactors and patrons, that it will use to help fund the app development. The university will help with human resources for the Partner-Up team and mentors. It's an interesting partnership that will benefit from a good reputation, the media exposure, it will be seen as a faculty that supports mental health initiatives and volunteer activities among students and will be able to offer Partner-Up as an attractive feature in Psychology undergraduate and master programs.

6.4.2 Promotion

According to Kotler (2016), promotion refers to the actions taken by a business to reach out to its current and future clients. Distributors and clients are reached through various channels, and several methods may be employed for promotion. Promotional activities are divided up into categories. **Personal selling** is a form of advertising in which a company representative interacts with customers to close a sale. Personal selling is more tailored and specific. In the media, public relations refers to the practice of positively promoting a business or product without the business paying for it. Due to the perception that it is news rather than an advertisement, this sort of promotion has high credibility. **Sponsorships** are when two brands decide to work together. **Content marketing** is disseminating useful, relevant content – blogs, social media posts, and videos – to current and potential customers. Influencer marketing is a content marketing strategy, a form of social media promotion that uses product recommendations and endorsements from influencers or people with large social followings who are recognised as authorities in their fields (Kotler et al., 2016).

The communication strategy will contemplate the above strategies and will focus on both consumer segments, mentees and mentors, and Generation Z and Generation Alpha.

Content Marketing

According to Keller Fay Group and Berger (2016), influencers have a greater impact than the typical person because 82% of customers and 73% of average people were "very likely" to follow an influencer's recommendation. Additionally, compared to the entire population, they are more direct in their recommendations, with 74% pushing someone to buy or try something as opposed to 66% of the general population.

Another benefit of influencer marketing is the side effects of reusing influencer content, which may drive a business's whole social media pipeline by distributing the brand to the influencers' audiences. Influencer marketing initiatives also have a continuing impact because consumers will still be able to examine the goods and services after the campaign is over (Berger & Keller Fay Group, 2016). Influencers can express their love for the products they advocate through their content.

The brand's main social media platform will be Instagram, which will engage more closely with its audience and explore influencer partnerships. Instagram is the most used social network in Portugal by young people aged between 15 and 24. The conclusion is from the study "Os Portugueses e as Redes Sociais", by Marktest (2022). The indicators of the study report revealed that 94.1% of young people use Instagram. TikTok is also an important platform for the brand since Generation Alpha, and some of Generation Z use the app regularly. However, TikTok's content is all about the originality and creativity of video development. It requires video authenticity in creating approachable videos that the audience finds funny and innovative. Because of this, we only suggest an Instagram-focused communication campaign for the early stages of the app. In the future, as the Partner-Up team grows so can the development of a Partner-Up TikTok profile come to life.

Partner-Up Instagram will have a clean look, matching the app's design, with some fun elements that give the brand a fun, young and informal look and feel. Posts will be published two or three times a week, alternating between educational posts, testimonials from mentees and mentors and ambassadors' content. All content will be in Portuguese. The Instagram profile on the bio will have Partner-Up's slogan: "Juntos somos mais felizes" and a call to action link to download the app, that directs the user to Play Store or Apple Store. It will have three highlights, "Embaixadores", " Partner-Up" e

“Mentores”. The highlight “Embaixadores” will have ambassadors-related content like reposts from their personal Instagram profile and Partner-Up stories made just for Partner-Up. The “Partner-Up” highlight will be a “Who are we” type of highlight, where stories explaining the project and concept of the app will be stored. Finally, “Mentors” highlights will be a diversity of stories and videos made by the mentors where they present themselves and talk about their experience on the app. Some posts will be sponsored so it reaches more people in the beginning. This communication strategy will follow the launch of the app in 2023.

This plan relies on a strong digital component making use of the power of social media and ambassadors among both consumer segments, Gen Z e Gen Alpha. The ambassadors chosen are chosen by their influence on the target audience and mental health advocacy. In the image below is a prototype in how the Partner-Up Instagram profile will look like, a zoom of the grid and four post examples.

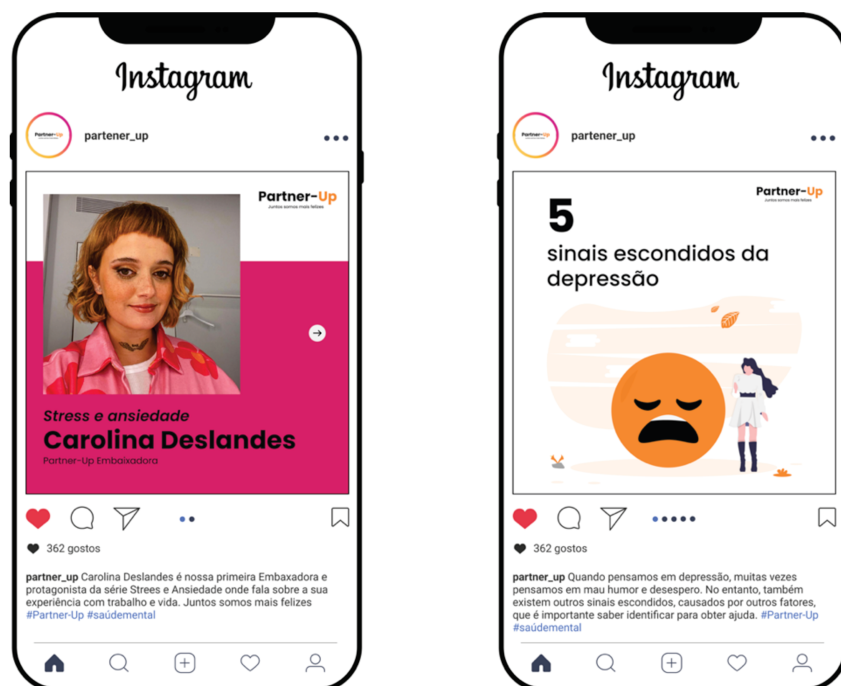


Figure 13 - Partner-Up Instagram Post

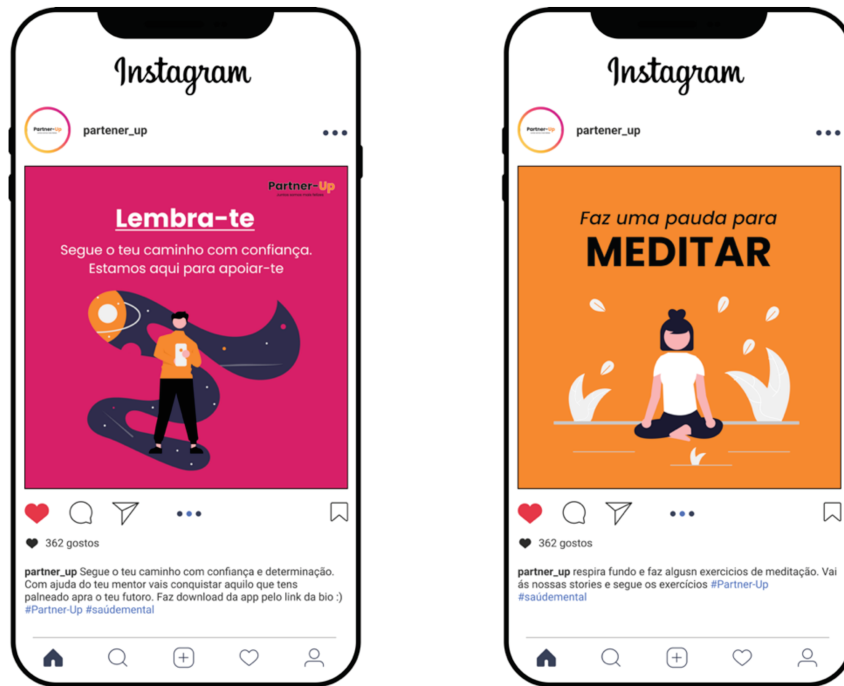


Figure 14 - Partner-Up Instagram Post

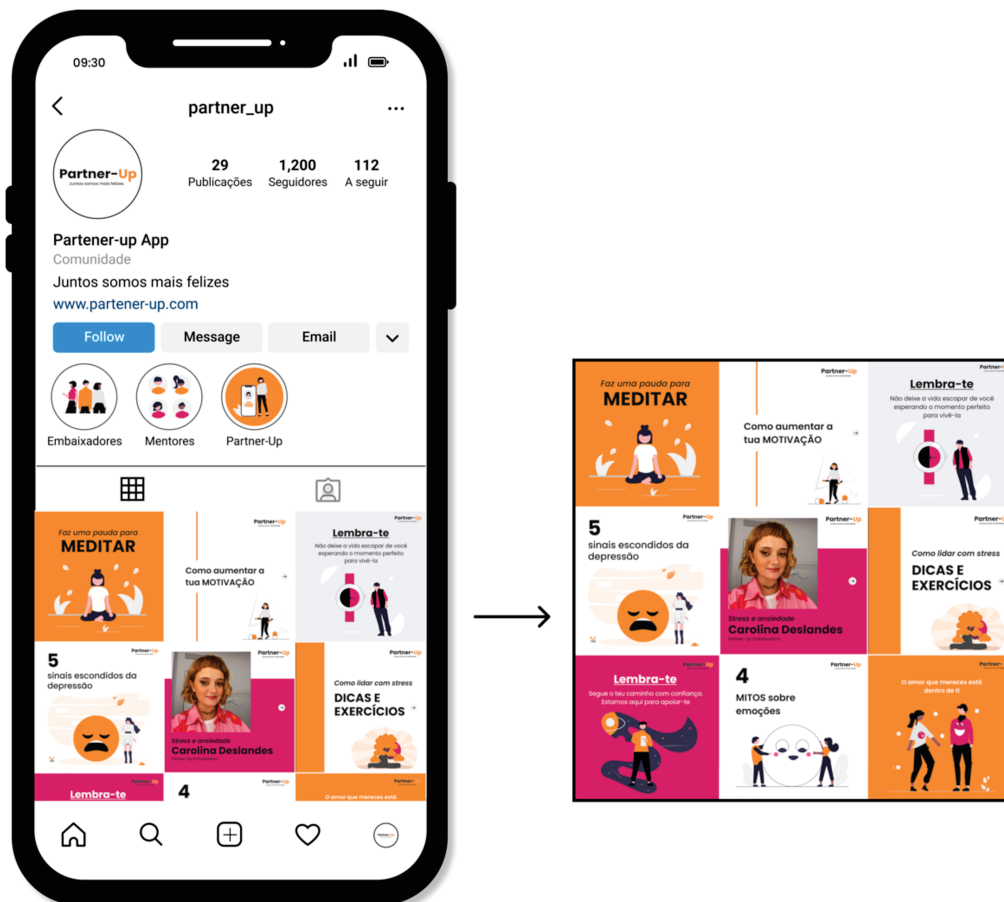


Figure 15 - Partner-Up Instagram Profile & Profile Grid

Ambassadors

One of our main ambassadors will be Carolina Deslandes. Carolina is a Portuguese pop singer, one of Portugal's biggest references in music. Her music is liked by all ages and is a big hit among young audiences as she is one of the “The Voice Portugal” and “The Voice Kids” judges. Her social media followers are of all ages, and her content is very authentic and genuine to herself. She posts about her daily life, her family, her work (music, television and some advertising), and her quotes and verses. She advocates for social equality, supports the LGBTQ+ community, and speaks about the importance of taking care of your mental health. She speaks very openly about her struggle with exhaustion and stress in her life and work. On her Instagram profile, she has one highlight with contacts for teen mental health support lines, like “SOS Adolescente” and “Linha SOS Palavra Amiga” posted during the COVID-19 pandemic for easy access to her followers. She has 956 000 followers on Instagram.

Another ambassador will be Pedro Teixeira da Mota, a Portuguese comedian well-known among young people and teens. In 2017, he created a podcast called “Ask.tm”, where he talked about his daily life and shared funny stories in a very authentic and genuine way. He has his own stand-up shows that tour across Portugal, has a podcast that drops an episode every Sunday, and now has a new series on YouTube called “Masterclass”, a humoristic take on mundane life lessons. On Instagram, he has 203 000 followers and is very active through his daily stories and posts about his life, always with a humorous take. Most of his audience is Gen Z and Gen Alpha people, with whom it greatly influences trends, spoken expressions and style among young people. He is not particularly involved in mental health advocacy. However, sharing on his social media, podcast, and stand-up shows his humorous take on life. He provides an entertainment break for those who follow him. As a comedian, he is sensitive to his audience's well-being by delivering happy and enjoyable moments through his work. Also, his humour makes him very approachable in sharing testimonials about sensitive topics like mental health. Being a Partner-Up ambassador would be a great opportunity to be involved in important issues like mental health and well-being.

Finally, we will have João Francisco Lima, a mental health advocate among young people from Lisbon. He recently suffered a very public mental health-related family loss, which

interested him in becoming an advocate for mental health. In 2020, he partnered with the clothing brand Ivory, which incorporates mental health awareness messages in its designs. He later becomes very present on Instagram in sharing messages of mental health support. He was later invited to mental health-related podcasts, like “Palavras com Graça” he joined “Festival Mental”, a festival dedicated to the topic, and he was invited to speak at “TEDx Talks Porto”. He has 41 800 followers on Instagram and has a very approachable look and speech, making him a reliable source to share Partner-Up content and be one of the faces of the app.

The strategy for the ambassadors is to work with Instagram stories and a couple of posts. Each ambassador will be given a specific mental health-related theme, for example, anxiety, depression or loneliness, and they will be challenged to do a 3-minute video about the topic. In the video, the ambassador will share their personal experience regarding the matter and which tools they use. Ambassadors will share the video on their stories, mentioning the app in the description. Later this video will be published on the Partner-Up profile and at the teams’ disposal. Regarding Instagram stories, the ambassadors will also do short clips for the stories’ highlights. All of these strategies will be developed together with the influencer, and future interactions will be developed based on the performance of these. This series will be called “Juntos somos mais felizes”.

Personal Selling

The personal selling strategy will be divided into two different user segments, the mentors and the mentees. For the mentors, posters will be hung at Universidade Católica Portuguesa campus, with more focus on the psychology building, which will have a message promoting the app and volunteer recruitment for the program. Also, a small briefing will be presented to students during one of their classes to better explain the concept behind the app, the importance of mental health, to appeal to their sense of community and volunteer.

For the mentees, posters will also be hung in a local middle and high-school campus, with the message to invite students to download the app and gain a mentor who will listen to them. Also, the Partner-Up team will give a small presentation to the students to also explain better what is the app, how it works and how can they get a mentor.

Both posters will have a call-to-action QR code linked to the team leader's email (university posters) or the app download (school posters).

Public Relations & Sponsorship

Partner-Up will sponsor “Festival da Saúde Mental”, an annual mental health festival. This festival offers talks, debates, theatre and other activities. Also, Partner-Up will collaborate with a mental health advocate clothing brand called IVORY WORLD. This brand sells t-shirts and hoodies with fun and trendy designs with inspiring quotes about the issue. This brand is modern, Gen Z and Gen Alpha targeted, and it’s found to be a “cool” brand. Both brands will collaborate in making a t-shirt that fits the VORY design and Partner-Up concept. This shirt will be sold on the IVORY WORLD website, where 100% of the profits will go to public mental health foundations. Partner-Up will be at the Universidade Católica Portuguesa job fair for brand awareness.

Additionally, a press release will be sent out to the media with information regarding the app, the initiative and the partnership with Universidade Católica Portuguesa. This strategy will help to create brand awareness and possibly impulsion more funding and investment.



Figure 16 - School (Mentee) & University (Mentor) posters

6.4.3. Roadmap

This section will demonstrate how the communication plan will function over the first year. To make it simpler to explain, the year is divided into four parts.

	January	February	March
Print	Kick-off Campaign (Mentees & Mentor targeted posters)	Kick-off Campaign (Mentees & Mentor targeted posters)	Kick-off Campaign (Mentees & Mentor targeted posters)
Social media	Posts 3 times a week on Instagram	Posts 3 times a week on Instagram	Posts 3 times a week on Instagram
Ambassadors	Instagram stories Carolina Deslandes	Instagram stories Pedro Teixeira da Mota	Instagram stories João Lima
Activation actions	Presentation in the University & Schools	Presentation in the University & Schools	Presentation in the University & Schools

Table 7 - Partner-Up First Quarter Communication Plan

	April	May	June
Print	-	-	-
Social media	Posts 3 times a week on Instagram	Posts 3 times a week on Instagram	Posts 3 times a week on Instagram
Ambassadors	-	Instagram stories João Francisco Lima	Instagram video João Francisco Lima

Activation actions	-	Sponsorship Festival Saúde Mental	Collaboration with IVORY WORLD
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Table 8 - Partner-Up Second Quarter Communication Plan

	July	August	September
Print	-	-	-
Social media	Posts 3 times a week on Instagram	Posts 3 times a week on Instagram	Posts 3 times a week on Instagram
Ambassadors	-	Instagram stories Pedro Teixeira da Mota	Instagram video Pedro Teixeira da Mota
Activation actions	-	-	Annual Job Fair

Table 9 - Partner-Up Third Quarter Communication Plan

	October	November	December
Print	-	-	-
Social media	Posts 3 times a week on Instagram	Posts 3 times a week on Instagram	Posts 3 times a week on Instagram
Ambassadors	Instagram stories Carolina Deslandes	Instagram video Carolina Deslandes	-
Activation actions	-	-	-

Table 10 - Partner-Up Last Quarter Communication Plan

Chapter 7 - Conclusion

From this project, we understand that the mHealth market is still developing to adapt to growing needs and new technologies. Partner-Up aims to represent this evolution, where mental health is a priority and personalised, and peer interaction is valued when support and understanding are needed.

Although there is some competition in this market, Partner-Up sets itself apart by its services and costs. The app provides free help to teens provided by young people that can better understand them and relate to their problems. Other mHealth apps provide professional therapy to teens but are always associated with a subscription plan. Furthermore, other well-being apps that offer well-being resources and exercises are free and don't have personalised services or someone to communicate with. Partner-Up is different because it's free, social, personalised and young counselling with interested mentors using their time to volunteer.

From a business point of view, Partner-Up being a non-profit company can become challenging regarding getting funding and partnerships to start and maintain the project working. However, Partner-Up is a ground-breaking mHealth app, centred on caring for youth well-being and mental health, that follows the current digital trend offering high esteem and repute for partners. Partner-Up will need, in Y0 (year zero), of €65 000 of funding capital to start on the app and mentor program development. For the following three years, it's estimated that Partner-Up will need around €240 000, including app maintenance, payroll and other expenses. The company will start with just a project manager and team leader, and by Y3 (year three), it will have still just a project manager but a team of three team leaders.

In terms of marketing and communication, the message is well-defined. Partner-Up is about being young and happy together. The name is a common English expression to instruct a group to find a partner. Partner-Up mission is to match struggling teens with young students with whom they can relate. It positions itself as a trendy, young and cool app where teens can feel comfortable sharing their issues and being a part of a community.

The plan will be implemented in Y1 (year one) and includes both conventional and digital marketing strategies. This strategy aims to raise brand awareness in the mHealth app market. The goal of the digital strategy is to maintain audience interest by posting interesting content, tips and daily exercises. Partner-up will have three ambassadors on Instagram, Carolina Deslandes and Pedro Teixeira da Mota e João Francisco Lima. Each one will cover a mental health issue, open up about their experiences, and share useful tips on overcoming them. They will be part of a series with a couple of videos called “Juntos” posted on the Partner-Up Instagram profile. Influencers will focus their efforts more during the year's first quarter to increase the brand's visibility. A story and an interview will be the next two activities for each influencer during the year.

For the more traditional approach, we will print out posters in the first trimester and place them in the university and schools. The university will be at Universidade Católica Portuguesa, near the Psychology corridors, to create awareness for the volunteer and learning opportunities. The school posters will be placed in local Lisbon schools, and the app will be presented in a few classes to invite teens to join the app. We also want to partner with a trendy clothing brand, IVORY WORLD, which advocates for mental health through its designer t-shirts and hoodies. Partner-Up and IVORY WORLD would design a t-shirt and sell it, where 100% of the profits would go to other mental health associations. Additionally, a partnership with a mental health festival and presence at the annual job fair at the university.

With this project, we can understand the issue and importance of young mental health and how it doesn't have to be a paid service when young students are capable and interested in supporting these teens. This project's future is to be fully available online to inspire other students to do a project as their master thesis that positively impacts their community.

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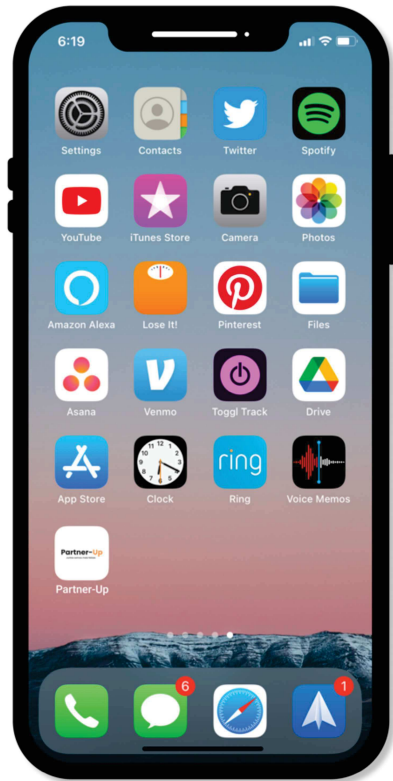
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Appendix

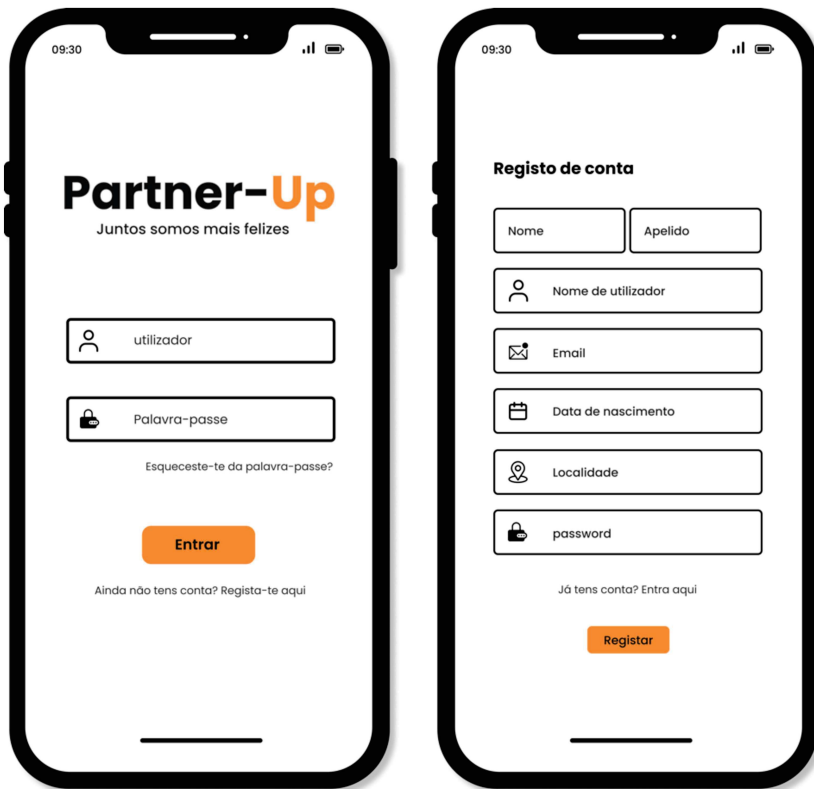
Appendix 1 - Partner-UP Icon on iPhone Homepage



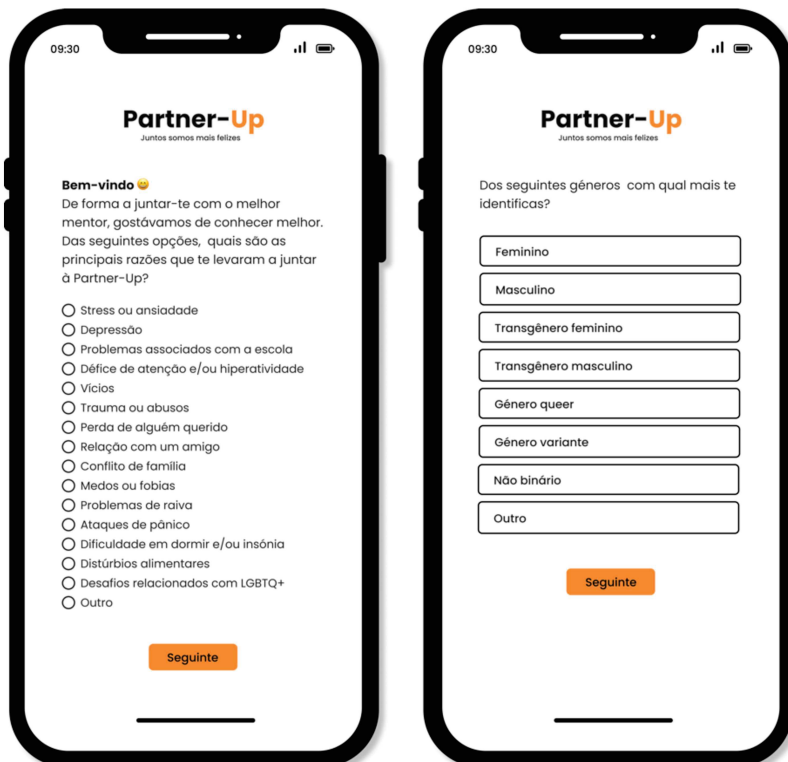
Appendix 2 - Partner-UP app slideshow



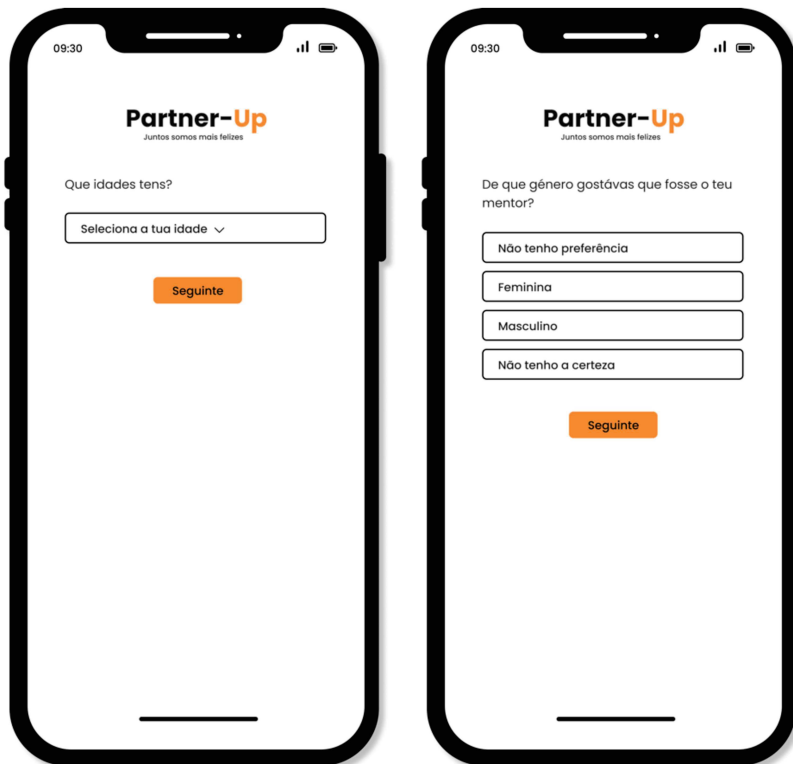
Appendix 3 - Partner-Up app Login and Register page



Appendix 4 - Partner-Up app Start from



Appendix 5 - Partner-Up app Start from



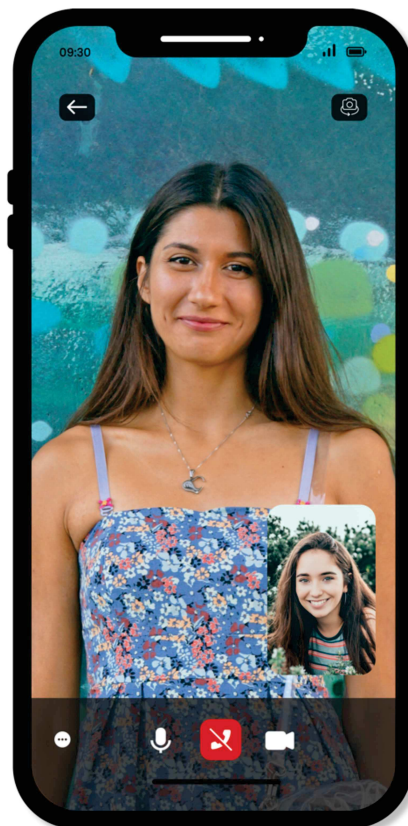
Appendix 6 - Partner-Up app Mentee Homepage



Appendix 7 - Partner-Up app Daily Reflection



Appendix 8 - Partner-Up app Mentor Chat & Video call



Appendix 9 - Partner-Up app Community page



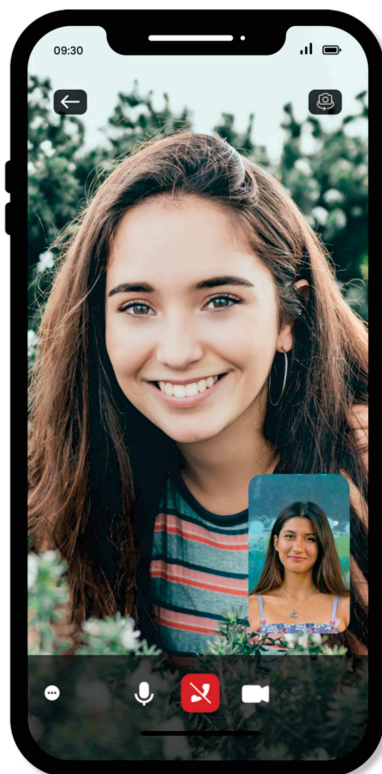
Appendix 10 - Partner-Up app Mentee Profile



Appendix 11 - Partner-Up app Mentor Homepage



Appendix 12 - Partner-Up app Mentee Chat & Video call



Appendix 13 - Partner-Up app Mentee Profile



Appendix 14 - Partner-Up app Biweekly Questionnaire

09:30 📶 🔋

Partner-Up
Juntos somos mais felizes

Olá! Aqui vamos avaliar como te andas a sentir

Durante os últimos 14 dias, em quantos te sentiste afetado/a por alguns dos seguintes problemas?

Senti-me nervoso/a, ansioso/a ou irritado/a

Nunca
 Em vários dias
 Em mais de metade dos dias
 Em quase todos os dias

Foi difícil controlar as minhas preocupações

Nunca
 Em vários dias
 Em mais de metade dos dias
 Em quase todos os dias

Preocupei-me demais com diferentes assuntos

Nunca
 Em vários dias
 Em mais de metade dos dias
 Em quase todos os dias

Tive dificuldade em relaxar

Nunca
 Em vários dias
 Em mais de metade dos dias
 Em quase todos os dias

Estive tão inquieto/a que era difícil ficar sossegado/a

Nunca
 Em vários dias
 Em mais de metade dos dias
 Em quase todos os dias

Estive facilmente incomodado/a ou irritável

Nunca
 Em vários dias
 Em mais de metade dos dias
 Em quase todos os dias

Senti receio, como se algo terrível pudesse acontecer

Nunca
 Em vários dias
 Em mais de metade dos dias
 Em quase todos os dias

Avançar

Appendix 15 - Partner-Up app Biweekly Questionnaire

09:30 📶 🔋

Partner-Up
Juntos somos mais felizes

Estamos quase. Só mais umas perguntas...

Durante os últimos 14 dias, em quantos te sentiste afetado/a por alguns dos seguintes problemas?

Tive pouco interesse ou prazer em fazer coisas

Nunca
 Em vários dias
 Em mais de metade dos dias
 Em quase todos os dias

Senti desânimo, desalento ou falta de esperança

Nunca
 Em vários dias
 Em mais de metade dos dias
 Em quase todos os dias

tive dificuldade em adormecer ou dormir sem interrupções, ou dormi demais

Nunca
 Em vários dias
 Em mais de metade dos dias
 Em quase todos os dias

Senti cansaço ou falta de energia

Nunca
 Em vários dias
 Em mais de metade dos dias
 Em quase todos os dias

Tive falta ou excesso de apetite

Nunca
 Em vários dias
 Em mais de metade dos dias
 Em quase todos os dias

Senti que não gosto de mim próprio/a - ou se sou um(a) falhado/a ou me desiludi a mim próprio/a ou à minha família

Nunca
 Em vários dias
 Em mais de metade dos dias
 Em quase todos os dias

Tive dificuldade em concentrar-me nas coisas, como ver televisão ou fazer os trabalhos de casa

Nunca
 Em vários dias
 Em mais de metade dos dias
 Em quase todos os dias

Movimentei-me ou falei tão lentamente que outras pessoas repararam. Ou o oposto: estive agitado/a a ponto de andar para um lado para o outro muito mais que o habitual

Nunca
 Em vários dias
 Em mais de metade dos dias
 Em quase todos os dias

Pensei que seria melhor estar morto/a, ou em magoar-me a mim próprio/a de alguma forma

Nunca
 Em vários dias
 Em mais de metade dos dias
 Em quase todos os dias

Terminar

Appendix 16 - General Expenses

	Y0	Y1	Y2	Y3
App development and tools				
App development	€25 000,00	€3 000,00	€5 000,00	€7 000,00
Vehicles, including special fit-out, if required	€0,00	€0,00	€0,00	€0,00
Office furnishings	€0,00	€0,00	€0,00	€0,00
Retail equipment	€0,00	€0,00	€0,00	€0,00
Tools and equipment	€0,00	€2 000,00	€0,00	€0,00
Cloud Infrastructure	€0,00	€1 200,00	€1 800,00	€2 400
Premises Fit-out				
Council fees, if necessary	€30,00	€30,00	€30,00	€30,00
Fit-out of new premises	€0,00	€0,00	€0,00	€0,00
Lease agreement fees	€0,00	€0,00	€0,00	€0,00
Rental bond and rent in advance	€0,00	€0,00	€0,00	€0,00
Other (describe here)	€0,00	€0,00	€0,00	€0,00
Other Start-up Expenses				
Accounting fees	€250,00	€250,00	€250,00	€250,00
Consultant fees	€0,00	€0,00	€0,00	€0,00
Incorporation of company	€700,00	€0,00	€0,00	€0,00
Employee Insurance	€100,00	€100,00	€100,00	€100,00
Internet connection and networks	€50,00	€50,00	€50,00	€50,00
Legal fees	€0,00	€0,00	€0,00	€0,00
License fees	€0,00	€0,00	€0,00	€0,00
Marketing	€1 500,00	€500,00	€500,00	€500,00
Registration of business name	€300,00	€0,00	€0,00	€0,00
Security bonds for electricity, gas and phone	€0,00	€0,00	€0,00	€0,00
Telephone connection	€90,00	€90,00	€90,00	€90,00
Training of staff	€0,00	€0,00	€0,00	€0,00
Website domain and E-mail	€110,00	€110,00	€110,00	€110,00
App Stores	€99,00	€99,00	€99,00	€99,00

Play Stores	€25,00	€0,00	€0,00	€0,00
TOTAL	€28 254,00	€7 429,00	€8 029,00	€10 629,00

Appendix 17 - Payroll Expenses

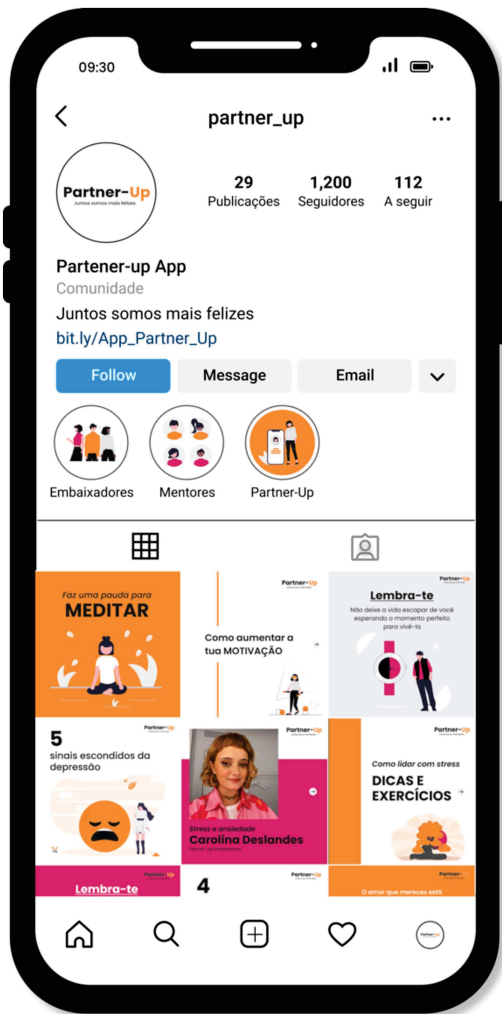
Y0	Gross Salary	Social Security	Other Allowances	Total
Project Manager	€1 500,00	€326,25	€180,00	€28 087,50
Team Leader 1	€500,00	€108,75	€0,00	€7 305,00
TOTAL	€2 000,00	€435,00	€180,00	€35 392,50

Y1	Gross Salary	Social Security	Other Allowances	Total
Project Manager	€1 500,00	€326,25	€180,00	€28 087,50
Team Leader 1	€700,00	€152,25	€0,00	€10 227,00
TOTAL	€2 200,00	€478,50	€180,00	€38 314,50

Y2	Gross Salary	Social Security	Other Allowances	Total
Project Manager	€1 500,00	€326,25	€180,00	€28 087,50
Team Leader 1	€750,00	€163,13	€0,00	€10 957,50
Team Leader 2	€750,00	€163,13	€0,00	€10 957,50
TOTAL	€3 000,00	€652,50	€180,00	€50 002,50

Y3	Gross Salary	Social Security	Other Allowances	Total
Project Manager	€1 500,00	€326,25	€180,00	€28 087,50
Team Leader 1	€750,00	€163,13	€0,00	€10 957,50
Team Leader 2	€750,00	€163,13	€0,00	€10 957,50
Team Leader 3	€750,00	€163,13	€0,00	€10 957,50
TOTAL	€3 750,00	€815,63	€180,00	€60 960,00

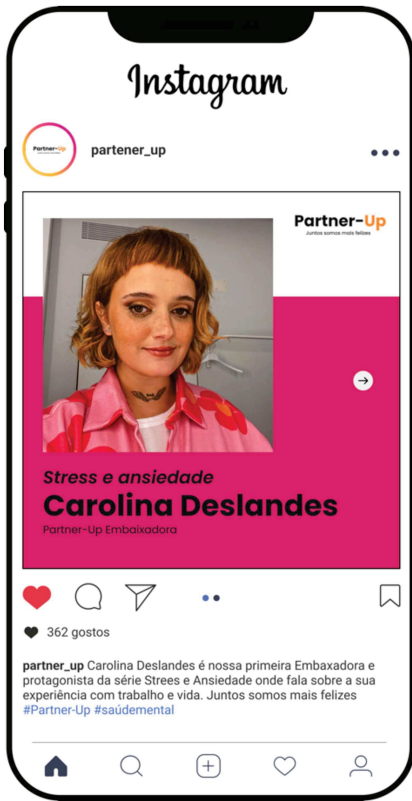
Appendix 18 - Partner-Up Instagram Profile



Appendix 19 - Partner-Up Instagram Grid



Appendix 20 - Partner-Up Instagram Posts Examples



Appendix 21 - Partner-Up Instagram Posts Examples



Appendix 22 - Partner-Up Mentee Poster



Partner-Up
Juntos somos mais fortes

Vamos conversar?

Gostavas de ter um amigo, tipo um mentor, com quem pudesses falar sobre aquilo que te preocupa, medos ou ansiedades?

Se tens entre 12 e 18 anos instala a app e encontra o teu mentor e faz parte da comunidade Partner-Up :)

Faz scan do QR code e instala a app

The poster features a stylized illustration of a person standing next to a large smartphone. The phone screen displays the Partner-Up app interface, including a profile picture and a menu icon. The background is a solid orange color.

Appendix 23 - Partner-Up Mentor Poster



Partner-Up
Juntos somos mais fortes

Queres fazer a diferença?

Gostavas de fazer parte de um projeto de mentoria focado na saúde mental dos jovens?

Tens apenas de ser: aluno finalista da licenciatura de Psicologia ou aluno do Mestrado em Psicologia do Bem-Estar e Promoção da Saúde da FCH - Universidade Católica Portuguesa

Envia o teu CV para o nosso Partner-Up Team Leader via email (team.leader@partnerup.com) com o assunto: **Candidatura Mentor**

Faz scan neste QR code e envia já a tua candidatura via email :)

The poster features a stylized illustration of a person standing next to a large smartphone. The phone screen displays the Partner-Up app interface, including a profile picture and a menu icon. The background is a solid pink color.