

The usefulness of Harmonised for whānau in supporting taitamariki to have
healthy relationships. A user experience co-inquiry study.

by

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A thesis submitted in partial fulfilment of the requirements

for the degree of

Masters of Health Science in Counselling Psychology

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2017

Abstract

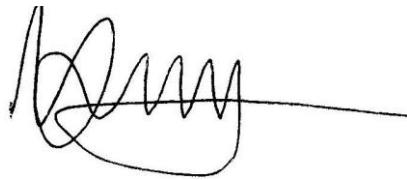
This research study explored the usefulness of the Harmonised mHealth application (app) for whānau in supporting taitamariki to have healthy relationships. Harmonised is a Māori centred yet inclusive intervention co-developed with taitamariki to promote healthy relationships for taitamariki and reduce whānau violence. Whānau can be invited by taitamariki to join the app to access resources and provide advice if asked. The usefulness of the app for whānau was explored using a new approach, user experience co-inquiry, within a qualitative descriptive methodology. User experience co-inquiry is a clinician facilitated and user led usability inquiry that takes the form of a semi-structured interview. Six whānau, all mothers, were interviewed, three of whom identified as Māori.

The results showed that Harmonised was viewed positively by whānau as a useful resource to support taitamariki to have healthy relationships. The circumstances, concerns and needs the mothers had for taitamariki framed the way in which they experienced the app. Thus, the usefulness was viewed in terms of facilitating communication and ensuring the safety of young people. Suggestions were made by the mothers for additional content and enhanced functionality of Harmonised to be considered in future releases.

Latent analysis of the data addressed a gap in the literature, by eliciting a potential model for evaluating the usefulness of eHealth and mHealth interventions. This model posits that the needs and concerns of the user determine the way in which the usefulness and usability of the app would be experienced. Thus, a user centred approach to eHealth and mHealth usability is beneficial to support clinicians make recommendations to clients and to inform future on-line interventions.

Attestation of authorship

I hereby declare that this submission is my own work and that, to the best of my knowledge, it contains no material previously published or written by another person (except where explicitly identified by referencing), nor material which to a substantial extent has been submitted for the award of any other degree or diploma or a university or other institution of higher learning.

A handwritten signature in black ink, consisting of a large, stylized 'M' followed by a series of loops and a long horizontal line extending to the right.

Moirira Howson

Acknowledgements

I would like to acknowledge the support of my supervisors, Dr Jackie Feather and Dr Jane Koziol-McLain, for their support, advice and encouragement. I would also like to thank Te Wai Barbarich who co-facilitated and reviewed the Māori interview transcripts and contributed to the development of the themes. I would also like to thank Dr Jane Koziol-McLain for giving me the opportunity to work with the Centre for Interdisciplinary Trauma Research and the women in room AB117 for welcoming me into their space. Finally, I would like to acknowledge the participants for their time and enthusiasm for the project.

Table of contents

Abstract	i
Attestation of authorship	ii
Acknowledgements	iii
Table of contents	iv
List of Tables.....	vii
List of Figures	1
1.0 Introduction	2
1.1 Background to Harmonised.....	2
1.1.1 Whānau violence	2
1.1.2 Healthy relationships for adolescents	3
1.1.3 A Māori centred and child centred intervention	4
1.2 Harmonised	5
1.3 Usefulness and user experience inquiry	7
1.4 Counselling psychology	8
1.5 Aims of the study	8
1.6 Structure of the report	9
2.0 Literature Review.....	10
2.1 The role of whānau in supporting taitamariki	10
2.1.1 Whānau within Māori centred interventions.....	10
2.1.2 Whānau supporting taitamariki	12
2.1.3 Parental support and involvement.....	13
2.1.4 Communication	13
2.2 The importance of help seeking and disclosure	14
2.3 Harmonised: a private social media app	15
2.3.1 Benefits of on-line social network communication	16
2.3.2 Potential negative outcomes of on-line communication	17
2.3.3 Whānau use of Harmonised	18
2.4 Evaluation of mHealth and eHealth interventions	19
2.4.1 User experience co-inquiry	21
2.5 The role of counselling psychology	23
2.5.1 Counselling psychology perspective.....	23
2.5.2 eHealth and mHealth psychological interventions.....	24
2.5.3 Family systems theory	25
2.6 Summary	26
3.0 Method	27

3.1	Methodological approach: Qualitative descriptive.....	27
3.2	Congruence between qualitative research and counselling psychology ...	29
3.3	Ethics.....	31
3.3.1	Cultural considerations	31
3.4	Method	32
3.4.1	User experience co-inquiry	32
3.4.2	User experience co-inquiry with Harmonised	34
3.5	Participants	36
3.5.1	Recruitment	36
3.5.2	Participant description.....	36
3.6	Data Analysis	37
3.6.1	Thematic analysis.....	37
3.7	Reflexivity & Rigour.....	40
3.7.1	Reflexivity.....	40
3.7.2	Rigour.....	42
3.8	Summary	43
4.0	Results	44
4.1	Participants	44
4.2	Overview of semantic themes	45
4.3	Theme One: Usefulness of Harmonised for whānau	46
4.3.1	Facilitating communication.....	46
4.3.2	Access to a safe person	48
4.3.3	Education and resources.....	48
4.3.4	Addition to existing social media.....	49
4.4	Theme Two: Usability of the Harmonised app	50
4.4.1	Safety and security	50
4.4.2	Content	53
4.4.3	Functionality	55
4.4.4	Aesthetics and design.....	59
4.5	Theme three: Whānau context	59
4.5.1	Concerns about young people	60
4.5.2	Girlfriend/boyfriend taitamariki relationships	62
4.5.3	Communicating with taitamariki	63
4.5.4	User background and experience	65
4.5.5	Māori cultural perspective	65
4.5.6	Support with young people	66
4.6	Theme summary	66
4.7	Latent thematic model.....	67
4.8	Summary	71
5.0	Discussion	72

5.1 Key findings	72
5.1.1 Usefulness for whānau	72
5.1.2 Communication	74
5.1.3 Safety	76
5.2 Implications for Harmonised.....	77
5.3 Implications for usefulness testing: user experience co-inquiry	78
5.3.1 A new approach to user experience	78
5.3.2 User experience co-inquiry with Māori	80
5.3.3 Clinician led user experience co- inquiry	81
5.4 Implications for counselling psychology	82
5.4.1 Counselling psychology training	82
5.4.2 Evaluation of eHealth and mHealth	83
5.4.3 Cultural and ethical implications	83
5.4.4 Family systems theory in counselling psychology	84
5.5 Methodological limitations	85
5.6 Recommendations for future research	87
5.7 Conclusion and significance	88
References	90
Appendices.....	97
Appendix 1: Ethics approval.....	97
Appendix 2: Information sheet.....	98
Appendix 3: Consent form	101
Appendix 4: User experience co-inquiry workshop agenda	102
Appendix 5: Interview guide.....	103
Appendix 6: Harmonised screen shots	107
Appendix 7: Usability log	108
Appendix 8: Draft user experience co-inquiry manual	110

List of Tables

Table 1:	Study participants	p. 37
Table 2:	Mobile App Rating Scale (Stoyanov et al., 2015)	p. 39
Table 3:	15 point checklist for quality thematic analysis (Braun & Clarke, 2006)	p. 43
Table 4:	Organising semantic themes and sub-themes	p. 46

List of Figures

Figure 1:	Thematic analysis in qualitative descriptive analysis (Vaismoradi, Turunen, & Bondas, 2013)	p. 38
Figure 2:	Example post from Harmonised	p. 57
Figure 3:	Usefulness model	p. 68

1.0 Introduction

This study formed part of post-graduate training in counselling psychology and aimed to explore the usefulness of the Harmonised application (app) for whānau (family) in supporting taitamariki (young people) to have healthy relationships. Harmonised is a mHealth (a health programme delivered through a mobile phone app) intervention in the form of a private social network co-developed to promote healthy and safe partner relationships for 13 to 17-year-olds. It is Māori centred yet inclusive, and involves whānau as safe people from whom taitamariki can seek advice and support. This chapter introduces the background to the research project with regards to whānau violence, promotion of healthy relationships for adolescents, the Harmonised app, its co-development, and the role of whānau within the intervention. It then concludes with a note on the method of user experience co-inquiry employed, and the overall purpose and benefits of this study.

1.1 Background to Harmonised

1.1.1 Whānau violence

Harmonised was co-developed in response to the need to reduce whānau violence. The World Health Organisation view intimate partner violence (IPV), which includes physical, sexual, psychological or emotional abuse, as a serious global human rights violation. IPV impacts negatively on economies, communities and individuals (García-Moreno, Jansen, Ellsberg, Heise, & Watts, 2005). It is a significant issue in New Zealand, with more than half of New Zealand women likely to experience one form of abuse, and a third, multiple forms of abuse (Fanslow & Robinson, 2011) over the course of a lifetime. In New Zealand, there are significantly higher rates of domestic violence for Māori women (Fanslow, Robinson, Crengle, & Perese, 2010). The increased prevalence of domestic violence among Māori has

derived from complex issues common to many indigenous communities living in the aftermath of colonisation such as poverty, racism, social marginalisation and unemployment (Dobbs & Eruera, 2014). In addition, the loss of cultural identity, language and land, and the breakdown of traditional family systems and support, may increase the propensity of family violence for Māori.

Not only are Māori overrepresented in violence statistics but the Māori population is relatively young. A 2009 study by Koziol-McLain found a high percentage of 16 to 24-year-old Māori in Northland had experienced violence in relationships (as cited in Eruera & Dobbs, 2010). New Zealand census data estimates that approximately 42% of Māori in New Zealand were under the age of 20 in 2011 (Stats New Zealand, 2013). This suggests targeting an intervention at 13 to 17-year-olds, would reach a large number of Māori. This is an advantageous age for the promotion of healthy relationships, but to be effective it should include an element of whānau (Eruera, 2015) or family support and involvement (Cox et al., 2016).

1.1.2 Healthy relationships for adolescents

There is good reason to target violence intervention programmes and the promotion of healthy relationships to adolescents. Firstly, adolescence is the time when first partner relationships are likely to occur. Through participation in healthy, reciprocal and respectful intimate relationships, adolescents develop a sense of sexuality, experience sexual desire, and explore their sexual identity. These are all essential components of the journey toward psychosocial autonomy and a secure sense of self (Steinberg, 2008). Secondly, it is also the stage of life when patterns of partner violence are likely to emerge (Stöckl, March, Pallitto, & Garcia-Moreno, 2014). Research has found that experiencing or perpetrating violence as an adolescent is a significant predictor of victimisation and perpetration in the next stage of life. If it

continues into adulthood without intervention, women may be less likely to seek help (Fanslow et al., 2010). Thus, behaviours learned in early relationships may become normalised and carried into future relationships through social learning and life course perspectives (Cui, Ueno, Gordon, & Fincham, 2013).

Thirdly, there is a high cost for adolescents experiencing unhealthy or abusive relationships in terms of increased rates of depression and anxiety (Fergusson, Horwood, & Ridder, 2005; Holt & Espelage, 2005), comorbid mental health issues, poorer psychosocial functioning, substance abuse at follow up (Brown et al., 2009) and suicidal ideation. Yet, on the other hand, healthy relationships during adolescence into young adulthood not only enable healthy psychosocial development as per Steinberg (2008) but they may be a protective factor in mental health (Whitton, Weitbrecht, Kuryluk, & Bruner, 2013). Therefore, interventions promoting healthy relationship behaviours are important from the early stages of relationship formation which occurs during adolescence.

1.1.3 A Māori centred and child centred intervention

To date, most violence interventions have been designed by non-Māori, with little or no account of the Māori worldview. These approaches are therefore hindered in their ability to effectively enable change in partner relationships for Māori. As such, an effective intervention should give priority to Māori knowledge, just as any culturally competent intervention requires a deep understanding of the issues and intervention from the participants' perspective (Kerig, Volz, Moeddel, & Cuellar, 2010). Features of culturally centred interventions should develop within that culture and include but not be limited to, ensuring that language is appropriate in terms of emotional expression, the use of cultural metaphors and idioms and a recognition of the social, political and developmental context of the targeted group (Bernal & Sáez-

Santiago, 2006). For Māori, this approach is represented by the Mauri Ora framework, which is a values-based approach to guide research, practices and interventions to eliminate violence for Māori. This framework underpinned the development of the Harmonised app which countered head-on the Western tradition of research and intervention into domestic violence.

In co-developing Harmonised, researchers collaborated with taitamariki to understand what would be effective for the taitamariki themselves, as an intervention to promote healthy relationships (Eruera, 2015; Eruera & Dobbs, 2010). They heard how taitamariki define healthy and unhealthy relationships, why they may avoid seeking help for problems, what support they would like and who they would turn to. Thus, the resulting Harmonised app was co-developed with taitamariki through a process of listening to what young people wanted, and felt they needed, to help them have healthy relationships. Harmonised is therefore a Māori centred and child centred approach in giving agency to the children's voices (Eruera & Dobbs, 2010) in defining and developing the look and feel of the Harmonised app.

1.2 Harmonised

The Harmonised project (<https://harmonised.co.nz/>) is a four-year project funded by the Ministry of Business, Innovation and Employment. The Harmonised app provides a private social network for young people where they can talk about relationship issues, understand their own relationship values and health, access resources such as articles and other webpages, and communicate privately with selected 'safe' friends and whānau on issues they would like help with. Following app development and user testing, in 2018, the effectiveness of the app will be tested in a stepped wedged trial in eight New Zealand secondary schools. The project aims to

incorporate the Harmonised app across New Zealand secondary school curriculum from 2019.

In line with the expressed wishes of taitamariki to be able to share information with whānau members with whom they felt safe, Harmonised allows for whānau or family members to access the app. This reflects the importance of whānau in a Māori-centred intervention to support young people. Thus, the app has two types of users. Primary users of the app are taitamariki who have access to full functionality of the app (relationship profile, values, posting information). Secondary users are the whānau or invited safe people. Whānau and family can download the app as secondary users to have access to articles and resources, and are able to view, or view and comment, on posts as invited to by their taitamariki who asked them to join.

The aim of Harmonised for whānau is therefore twofold. First, it is to educate family members by offering helpful practical advice on how to support their taitamariki in experiencing healthy relationships. An example of the articles available on the Harmonised app targeted towards whānau include:

- Talking with your children about dating and relationships
- Sometimes it's hard to know what to say or how to say it
- Need someone you can talk to?
- Worried about taitamariki and not sure what to say?

The second is to provide a safe communication channel between taitamariki and selected whānau or friends to seek input and advice. Whānau who download the app for information and resources will not have the ability to comments on posts made by the adolescent users, but those invited as a safe contact by a young person will have the ability to view and comment on a post if asked to do so. To ensure effective deployment of the application, and in line with the upcoming trial stage, usability

testing is being carried out to explore the functionality, relevance and helpfulness of the app for its primary and secondary users. This study is focused on usability and usefulness for whānau as secondary users.

1.3 Usefulness and user experience inquiry

In 2014, as part of the requirements for a Bachelor of Health Science (Hons), I conducted a systematic literature review to identify the methods used to evaluate users' experiences with eHealth and mHealth psychosocial interventions. What I found was a lack of user centred and clinician facilitated approaches to assess user experience with an intervention in-situ (Howson, 2014). Methods were either focused on the usability and functionality of the intervention itself, or on an evaluation of the intervention through interviews and surveys, or randomised control trials. There appeared to be a dearth of methods addressing the cognitive, emotional and physiological experience of the user when interacting with an intervention. Yet, these experiences are important to capture and understand from a clinical and development perspective. It would help clinicians in making decisions about recommending on-line therapies and interventions, and understanding potential barriers and enablers of use. This is ever more relevant as the conventional model of face-to-face therapeutic relationship is increasingly replaced by a virtual one (Barak, Klein, & Proudfoot, 2009). The experiences of the user can help guide content and functionality developments of interventions. One method, situated co-inquiry (Carter, 2007), had been proposed but had not then been applied to the evaluation of user experiences of psychosocial eHealth interventions until 2015 when it was used to explore women's experiences with isafe, a safety planning intervention for women experiencing family violence (Gilbert, Feather, Carter, Parry, & Koziol McLain, 2016, October). In the current study, to assess the usefulness and user

experience for whānau as secondary users of Harmonised, a modified situated co-inquiry method called user experience co-inquiry was applied.

1.4 Counselling psychology

This research was undertaken as part of post-graduate training in counselling psychology, and therefore a number of related theoretical and practical implications are considered throughout the report. In the literature review the degree to which the Harmonised app fits within the remit of counselling psychology is discussed as are ethical considerations and a family systems approach to the research. The research augmented my training as a counselling psychologist as the process of qualitative research aligns with many of the skills required by a practicing counselling psychologist (Thorpe, 2013) as discussed in the method section. The discussion draws these threads together to review the implications for counselling psychology from the perspective of evaluating eHealth and mHealth interventions, working with whānau on violence prevention programmes and ethical considerations when working bi-culturally.

1.5 Aims of the study

The key aim of the study was to explore the usefulness of the Harmonised app for whānau in supporting taitamariki to have healthy relationships. Taitamariki expressed a need for access to selected whānau through the Harmonised app to offer safety and support in intimate relationships matters. For this to occur, whānau would need to view the app as useful and beneficial in helping them help taitamariki. A second aim of the study was to trial a new user experience and usefulness testing method (user experience co-inquiry) for eHealth and mHealth psychosocial interventions.

The expected benefits of the study were threefold. First, to provide input into further development and releases of the Harmonised app to ensure its utility for whānau

and family in supporting taitamariki. Second, to provide a deep understanding of the needs of whānau when dealing with young people on issues of relationship health. Finally, the study contributed to the development of user experience research and usability inquiry of mHealth and eHealth psychosocial interventions.

1.6 Structure of the report

Following from this introductory chapter are:

- Chapter 2: Literature review - exploring recent and relevant literature concerning the research on the role of whānau in supporting young people, help seeking and disclosure and the evaluation of eHealth and mHealth interventions.
- Chapter 3: Method - this chapter describes the qualitative descriptive methodological approach, ethical considerations and methods undertaken throughout the research.
- Chapter 4: Results – a presentation of the key findings from the research by describing and illustrating with quotes the semantic themes. It also presents an overall latent model that underpins the key findings.
- Chapter 5: Discussion – a summary of the key findings in light of the literature, and implications for the Harmonised app, user experience inquiry, and counselling psychology followed by methodological limitations and recommendations for future research.

2.0 Literature Review

This chapter explores the literature concerning the role of whānau in supporting their adolescent children (taitamariki) to have healthy relationships. The role of whānau in supporting taitamariki is addressed as is the importance of parental support and involvement to adolescent overall wellbeing. The benefits for taitamariki in disclosing relationships concerns, and the use of the internet to facilitate this is also reviewed. In this chapter the relevant literature concerning user experience of psychosocial eHealth and mHealth interventions is also reviewed. The chapter concludes with reference to the study in light of a counselling psychology perspective.

2.1 The role of whānau in supporting taitamariki

The inclusion of whānau in the Harmonised app to support taitamariki is important for a number of reasons. Firstly, Harmonised is a Māori centred intervention and whānau is central to Māori identity, wellbeing and the protection of young people. Secondly, taitamariki were explicit in their desire to turn to whānau for help and support with relationship issues. Thirdly, parental support and involvement is important to all adolescent wellbeing and the success of interventions for adolescents. Finally, facilitating communication between parents, or whānau, and young people appears to be key to effective interventions.

2.1.1 Whānau within Māori centred interventions

Harmonised is a Māori centred smart phone app intervention that is being co-developed within a Mauri Ora framework, a multi-layered approach designed by Māori academics, community leaders and practitioners that takes into account cultural imperatives for Māori. The developers aim to address the fact that:

Violence prevention programmes developed out of violence research involving Western populations, do not readily translate cross-culturally or adequately address the complex range of factors that underlie the

high level of violence found in indigenous communities, violence perpetuated against indigenous communities, or the development of prevention strategies. (Dobbs & Eruera, 2014, p. 5)

Within this approach, the Māori worldview is acknowledged as central to a person's wellbeing and to addressing whānau violence (Dobbs & Eruera, 2014). Mauri Ora encompasses cultural constructs including traditional values (Te Ao Māori), contemporary issues (Te Ao Hurihuri) that undermine traditional Māori values, and transformative practice that can occur by bringing the traditional cultural constructs into the present context. Transformative practice is illustrated by a New Zealand study by Yuen and White (2007) that found that marginalized or minority young men can transform from violence to non-violence through work which helps them recognize positive values and reconnect with important family, cultural and historical figures (as cited in Eruera & Dobbs, 2010). In other words, it illustrates the transformation that can occur by applying "Te Ao Māori constructs into Te Ao Hurihuri navigating the environmental and contextual influence of society today." (Eruera & Dobbs, 2010, p. 11).

For Māori, whānau play a central role in wellbeing, identity and connectedness. Whānau are diverse and defined according to tribal and regional association, and can encompass a range of people from immediate family to more complex groups (Tibble & Ussher, 2012). However regardless of compositions, the:

whānau unit is the fundamental building block of Māori society. Not only does whānau mean 'to be born' or 'give life', but it refers to the kinship group that includes mokopuna (grandchildren), tamariki (children), mātua (parents), kaumātua (grandparents), and whānaunga (relatives). (Tibble & Ussher, 2012, p. 7)

Traditionally, one of the roles of whānau was to provide safety, support and wellbeing for women and children, as part of a wider community or hapu (Dobbs & Eruera, 2014). However, colonisation impacted on the structures of whānau through

urbanisation and institutional racism, eroding the traditional systems, values and behaviours that were used to ensure safe interpersonal relationships and social structure. Consequently, the lack of whānau presence with regards to collective responsibilities for parenting and role modelling, hinders the ability of whānau to be protective of taitamariki. Whānau require support and resources to play the important role in educating young Māori and preventing patterns of violence arising. Furthermore, taitamariki want the ability to reach out to whānau for support.

2.1.2 Whānau supporting taitamariki

The role of whānau in supporting taitamariki is acknowledged by the young people themselves. Research found that Māori adolescents aged 13 to 17-years-old, would like to turn to their whānau for support with relationship issues, including for example, older cousins, sisters and aunties (Eruera & Dobbs, 2010). Whānau were described as easier to talk to than counsellors and non-judgemental. Although much of the research on adolescent help-seeking, usually conducted with white European adolescents, suggests young people turn to peers for support (Jackson, 2002), research with diverse cultural and ethnic groups also found family to be a main source of support. For example, a study into disclosure among Latino youth found that although they may be more likely to talk to their friends, if they did talk with family, it was more likely to be mothers, with some mention of other relatives (aunties, cousins and siblings). None of the Latino youth said they would talk to fathers (Ocampo, Shelley, & Jaycox, 2007). Another study found that African American girls were more likely to seek help from family (Black & Weisz, 2003) than friends when dealing with relationship violence. However, the importance of family and parental support cannot be overlooked, regardless of culture.

2.1.3 Parental support and involvement

Although adolescence is a time of increased peer group socialisation, parental or whānau involvement is still extremely important to adolescent development. It may in fact, be the best and most consistent predictor of an adolescent's mental and emotional wellbeing (Steinberg, 2014). However, there is conflicting evidence as whether or not parental involvement in adolescents' lives operates as a protective factor against relationship violence. One study found that parental social support was not necessarily associated with lower rates of abuse for adolescents (Richards & Branch, 2014), whereas another study found parental involvement in adolescents' lives to be a protective factor (Mumford, Liu, & Taylor, 2016). Yet, regardless of the conflicting evidence concerning parental involvement in young people's lives, research has clearly found that parental or family involvement in programmes designed to address adolescence violence and relationship health is important (Cox et al., 2016; Latzman, Vivolo-Kantor, Holditch Nolon, & Ghazarian, 2015). For example, a recent systematic review into the evaluation of Australian youth violence prevention programmes found that a common feature among successful programmes was the enhancement of protective factors, including at a family level (Cox et al. 2016). In fact, all the programmes in the review that included formal parenting training were successful in reducing the targeted behaviours, including physical and verbal violence. The incorporation of parent training in programmes involves teaching good parenting practices and improved adolescent and parent interpersonal communications.

2.1.4 Communication

Effective interventions for young people that involve parents are likely to include a component on communication. Although most adolescents can talk to their parents about serious things, a quarter of girls and boys may feel unable to talk to their

mother about problems, and over half of girls and one third of boys may feel unable to talk to their father (Ackard, Neumark-Sztainer, Story, & Perry, 2006). Adolescents who; have difficulty talking to family about problems, perceive parents as not caring, and place more value on friends' opinions for serious decisions, are more likely to have compromised emotional and behavioural health (Ackard et al., 2006). In support of this finding, Wight and Fullerton (2013) reviewed interventions, designed to educate teenagers on sexual health and behaviour, that included an element of parental involvement. They found that improved communications on the topic under review (e.g. risky sexual behaviour) was associated with better outcomes. Thus, improving communication on the topic of interest was a key focus of the behaviour change intervention. The reviewed interventions were all related to sexual health, and sexual activity and consent is a component of healthy partner relationships as covered in Harmonised.

2.2 The importance of help seeking and disclosure

The benefits of improved communication between taitamariki and whānau, parents and adolescents, to wellbeing is due in part to an increased ability of young people to share and disclose information, particularly on serious issues. This is important for young people in order to find the support they need to extricate themselves from, or make healthy, unhealthy relationships. Furthermore, talking to people is helpful, as adolescents who did so, felt supported, finding clarity and perspective on relationships events (Jackson, 2002). In addition, research found that social support from friends was significantly related to reduced perpetration of physical and emotional violence for female adolescents, and lower levels of emotional (but not physical) abuse victimization for males and females (Richards, Branch, &

Ray, 2014). However, research has also found that adolescents generally do not like to disclose relationship abuse to others.

Adolescents may avoid disclosure due to concerns of embarrassment, shame, lack of trust or concerns over confidentiality (Eruera & Dobbs, 2010; Jackson, 2002). If they do discuss these issues, they are likely to disclose emotional violence, followed by sexual coercion and then physical abuse. Even physical abuse is likely to be disclosed by only around half of the young people and as previously mentioned, likely to be shared with peers (Jackson, 2002). This may be natural as adolescence is a time of increased emphasis on socialization and peer relationships on the path to adulthood (Steinberg, 2014). Friends tend to be viewed as less judgemental and more supportive, offering sympathy rather than practical concrete steps to enable the person to leave or improve the relationship (Ocampo et al., 2007). Although supportive friends may protect against emotional abuse in relationships, given the potential lack of experience and practical advice they can offer, it may be unsafe and even unhelpful to rely only on friends for support. A goal for healthy relationship intervention programmes should be to empower young people to seek help if required, making use of both peer and especially whānau and family networks. The use of technology is one way of enabling disclosure for young people.

2.3 Harmonised: a private social media app

Adolescents, like the taitamariki in Eruera and Dobbs 2015 study, may indeed want (and need) support and counselling from adults in their lives, but the conversations do not appear to be happening (Somers & Paulson, 2000). The feelings of embarrassment adolescents experience talking to parents, and the fear that parents may be ill-equipped to help them can be overcome by using a targeted intervention to provide a safe channel of communication and information. Therefore, encouraging

adolescents to ask for support or disclose to safe adults within their families, may be more likely to occur via an on-line, social network, intervention.

2.3.1 Benefits of on-line social network communication

Although interventions designed for the promotion of healthy relationships and preventing violence in relationships can take many forms such as computer delivered, parent training, therapy, peer-led, role-play and videos offered in schools, communities and families (Cox et al., 2016; Jennings et al., 2017), most of these are time and resource heavy, relying on educators and trainers to be actively involved. App or internet-based interventions (mHealth or eHealth) which are accessible, cost effective and easily kept up to date may be more suitable for population interventions, particularly for adolescents given their high internet use. Although current data is not available on smartphone and internet usage statistics for New Zealand teenagers, 73% of American teenagers had smart phones in 2015 (Lenhart, 2015). In addition, 92% of school age teenagers (13 to 17-year-olds) access the internet daily (Lenhart, 2015), and 50% of teen log into their favourite messaging or social media site as least once a day (O'Keeffe & Clarke-Pearson, 2011).

In addition to availability in their daily lives, the internet and social media appeals to teenagers as an effective way to access, and share, information on confidential or potentially embarrassing issues that they may be uncomfortable discussing. One third of adolescents would rather communicate on-line than in person on intimate topics concerning sex and relationships (Schouten, Valkenburg, & Peter, 2007). In cyber space, they are able to explore developmentally sensitive topics which are important on their path to psychosocial autonomy (developing relationships, a secure sense of self and sexual identity) while controlling the degree of disclosure and the way in which they present themselves (Valkenburg & Peter,

2011). Social interactions on the internet, unlike face-to-face interactions, have the advantage of anonymity, asynchronization (the ability to edit before sending or posting a message) and accessibility to a wide number of people. A study of adolescent posting on a health and relationship on-line help bulletin board for adolescents found that questions around romantic relationships were most frequently posted, with questions on sexual intimacy, physical and sexual abuse also posted (Suzuki & Calzo, 2004). The researchers concluded that this type of forum can:

possibly circumvent the awkwardness associated with asking sexual and relationship questions seem to satisfy adolescent needs by allowing teens to candidly discuss issues about relationships and sexuality in their replies to one another. (Suzuki & Calzo, 2004, p. 695)

However, much of this research concerns peer based social media, and there appears to be little research on the use of social networking sites between parents and adolescents. One study found that opportunities for communication within the family over social networking and technology are not always taken (Schatorjé & Markopoulos, 2013). Regardless, the use of on-line social networks as a space in which to share information is also associated with negative outcomes such as cyber-bullying and depressive symptoms.

2.3.2 Potential negative outcomes of on-line communication

There is a growing body of research on concerns about on-line social media use for adolescents. One of the main concerns is the risk of cyber-bullying. Cyber-bullying tends to take the form of name calling and gossiping and has been linked to emotional stress and depressive symptoms among adolescents (O'Keeffe & Clarke-Pearson, 2011). Research suggested that 16% of children have engaged in cyber-bullying over their phones or the internet, and 23% have been on the receiving end of it (DeHue, Bolman, & Völlink, 2008). Cyber-bullying may also be exacerbated when young adolescents, before they develop a mature sense of gradual disclosure and the

building up of trust, share inappropriate and confidential material on-line (Mesch, 2009). Although anonymity on-line can provide some protection to those being bullied, it also offers protection to the bullies. In addition to bullying is the concern of 'Facebook depression' whereby teenagers, still vulnerable to peer pressure and developing self-regulation skills, are exposed to a sense of isolation and depressive symptoms as they navigate relationships in the on-line world (O'Keeffe & Clarke-Pearson, 2011). A further potential risk is the receipt of bad advice from peers. The research by Suzuki and Calzo (2004) indicated that there is a need for experienced adult involvement through monitoring or moderation, as on peer-to-peer sites, adult moderators stepped in and answered 10% of the questions raised.

However, despite these findings, research indicated parents are not always aware of the potentially negative outcomes of on-line social media participation. In fact, parental concerns with adolescent teenage use appears to be focused on advertisers targeting children, potential impact on academic and employment opportunities, reputation management and connecting with strangers (O'Keeffe & Clarke-Pearson, 2011) rather than the prevalence of cyber-bullying (DeHue et al., 2008). It seems that one of the challenges for parents is to understand fully what their adolescents are experiencing on-line and to enter their world by engaging with them through internet-based communications.

2.3.3 Whānau use of Harmonised

The benefits and potentially negative outcomes of social media may have ramifications for the role of whānau using Harmonised to support taitamariki to have healthy relationships. The effectiveness of Harmonised will depend not only on the willingness of the adolescents to use the intervention, engage with, and communicate with safe whānau, but also the willingness of whānau and family to reciprocate. This

requires an analysis of not only the usability of the Harmonised app, but also how helpful it is in meeting its objective of enabling whānau to support taitamariki in having healthy relationships. How likely will they be to use it, what other information or support is required, and what are the barriers and enablers of use?

2.4 Evaluation of mHealth and eHealth interventions

The Harmonised app is a mHealth intervention delivered through mobile technology. Accordingly, an exploration of how useful it is for whānau must address both its usability (or functionality) as an app and also how helpful it is an intervention for the user given their current needs and context. The functionality of an app has traditionally relied on some form of usability testing with a focus on the ease of use, navigability, and design features with pre-and-post measurements to evaluate its effectiveness as an intervention. For example, Whittaker, Merry, Dorey and Maddison (2012) proposed a step by step approach to the evaluation at the different stages of mHealth interventions. Their approach includes individual interviews with the target group at pre-testing on the usability or functionality of the app, noting questions around style, content and language as an example. A second step is qualitative research, via semi-structured interviews, occurring post a randomised control trial phase. This phase appears to address the helpfulness or unhelpfulness of the intervention, unintended or adverse effects and potential to improve the app. These interviews are focused on the usefulness of the app for the user but do not address the usability. Yet, to explore the usefulness of the app as an intervention entails an understanding of both user experience and usability. The mode of delivery cannot be separated out from the experience of the user, as they engage with the application and research has shown there are few approaches that do both (Howson, 2014). Just as the

therapeutic relationship is a key determinant in face-to-face therapy (Hill, 2009), the application is likely to evoke any number of responses for the user.

Although evaluations of a mobile or web-based intervention's effectiveness (how well a treatment works in the real-world setting) can still follow traditional modes such as randomised control trials, case studies and self-report measures, exploring the experience of the user as they receive or interact with the intervention implies the need for an additional approach. The potential effectiveness or helpfulness of an intervention for a user, include the usability of the intervention and their subjective experience concerning safety, empathy, reciprocity and relevance. For mHealth interventions, the focus is on supporting health and wellbeing, therefore, content is the primary focus, with the app the means to accessing the content. If there are many barriers due to usability issues in the app, the content will be less accessible to the user (Carter, 2007). Beyond the functionality of an application, the users' interaction may elicit cognitive, emotional and physiological responses that influence the usefulness of the intervention.

The user experience may be an important determinant of usage, adherence and participation similar to the experience of the therapeutic relationship or counselling session. In counselling interventions, there are a number of tools and measures to assess the user experience (Manthei, 2015) yet none appear to be developed for the exploration or assessment of the mHealth intervention experience. A 2014 systematic review of the literature concerning evaluations of user experience with mHealth interventions noted a need for "best practice protocols that combine work in usability testing from computer science with session and treatment evaluations occurring in health and psychology" (Feather et al., 2016, p. 10). Therefore, to explore how

helpful an application is, requires a cross disciplinary approach. One such method is user experience co-inquiry.

2.4.1 User experience co-inquiry

“User experience co-inquiry” is a method proposed to explore the helpfulness of eHealth and mHealth interventions and is a modified form of situated co-inquiry which was developed as part of an ongoing interdisciplinary programme of research at AUT. Situated co-inquiry incorporates features of usability inquiry from computer science, and in the moment (in-situ) evaluation from psychology. It was proposed as an efficient and accessible way to do usability testing for a range of eHealth and other internet applications (Carter, 2007):

To find out if something is useful, you use it and find out. There is a flexible and tightly interwoven movement between your use of the thing and your thinking about it. Remarkably this everyday inquiry within experience has not been highlighted as the essence of usability testing. When it is, usability testing can be liberated from specialists and restrictive procedures. It is humanised so it can be owned by anyone and used flexibly in response to the emergent needs of a software development endeavour. When usability expands out to include usefulness and the identification of what works well as well as what doesn't, it becomes more generative for the software development endeavour. (Carter, 2007, p.18)

Situated co-inquiry was influenced and informed by psychodramatic theory and practice, in which the meaning of an experience is developed in the moment through an integration of cognitive and emotional responses. This is what makes situated co-inquiry distinct from traditional usability testing which focuses on the functional features of the app. It places the experience of the individual at the heart of the process, signalling a shift from a focus on functionality in usability testing to “understanding the users’ goals, context, feelings, profile and thoughts during the process of interaction.” (Howson, 2014, p. 8). Situated co-inquiry was used to assess women’s’ experience with isafe,, a web-based safety decision aid and from this emerged a number of themes for the women interacting with the app, concerning for example ideas around safety and

dignity (Gilbert et al., 2016, October). The goals of this type of user experience inquiry, as outlined by Feather, Carter, Koziol-McLain and Parry (2014) are to:

- Provide a protocol and method that clinicians can use to assess the psychosocial experience for eHealth and mHealth users
- Integrate computer science usability testing and design with the evaluation and exploration of psychological interventions
- Focus on the experience of the end-user and customer rather than the technical intervention (e.g. app or web-page)
- Enhance the development and dissemination of safe and effective eHealth and mHealth interventions
- Deepen our knowledge of the process of eHealth and mHealth interventions in supporting/helping developing individuals.
- Build practice knowledge of clinician experts to inform the design, development, implementation and updating of systems to support the work done by application design and development experts.

In its traditional form, situated co-inquiry requires two clinicians in each session, one as the logger (taking notes and keeping track) and one as facilitator. It also requires additional technical set up of a monitor screen and screen capture software.

Additionally, the analysis is done in-vivo with the facilitator developing formulations based on the user experience during the session.

User experience co-inquiry is a modification of Carter's method, simplified to allow for broader application. It is still user-lead and clinician facilitated, similar to the apprentice/master model put forward by contextual design inquiry (Holtzblatt & Beyer, 2017) whereby a user interacts as naturally as possible with the artefact or intervention, leading the interviewer through the process. It is a 'think aloud' protocol as the user

relays their emotions, memories, and ideas that come to mind in the moment of use with the application, with as little interference as possible. However, the revised version ‘user experience co-inquiry’ has only one clinician interviewer and analysis is conducted post inquiry, on the basis of transcripts, rather than in-vivo. As with situated co inquiry the focus is on the user, rather than the intervention (the app) and the interaction between the two, taking account of the user’s unique circumstances and context.

2.5 The role of counselling psychology

The Harmonised intervention and the application of user experience co-inquiry to explore its usefulness for whānau cohere with counselling psychology in three ways. Firstly, the app itself and user experience co-inquiry method are situated within the humanistic approach that underpins counselling psychological approaches. Secondly, is the growing importance of mHealth and eHealth psychological interventions and thirdly, a review of the usefulness for whānau sits within a family systems theoretical perspective.

2.5.1 Counselling psychology perspective

This research sits within a counselling psychology perspective for the following reasons. Harmonised is strengths based, with a goal of developing relationship skills, and helping young people draw on their own friendship and whānau networks to do so. The focus is on prevention, through education and utilisation of existing strengths and resources to facilitate growth, which are key tenets of counselling psychology (Cooper, 2009). User experience co-inquiry is designed to give voice and a prioritisation to the user’s unique subjective experience, perspective and world view rather than that of the researcher, app developer or therapist (Cooper, 2009). In so doing, it also takes account of the cultural needs and worldview of the

users, reflecting a commitment to Te Tiriti o Waitangi principles of partnership, protection and partnerships as required by the Code of Ethics for Psychologists working in Aotearoa/New Zealand (2002). This is further enhanced by the co-development of Harmonised with taitamariki using a Mauri Ora framework and consideration of Te Ara Tika in the research process. In addition, it is part of the process Cooper calls “giving psychology away” by sharing information and tools with communities and individuals to grow and develop relationship skills (2009). After all, counselling psychology:

represents a particular form of a very widespread if not universal human practice, that of being in relationship with another or others who may well be in distress or challenged, and simultaneously seeking to make thoughtful use of the best available resources of knowledge, skill and art in the service of that relationship and hence of the other or others. (Farrell, 2013, p. 14)

Therefore, as well as promoting relationship skills through the Harmonised app, the process of user experience co-inquiry involves engagement between the clinician as facilitator and user to collaboratively explore the users’ responses, needs and experiences of the intervention. Finally, counselling psychology interventions are founded on evidenced based practice and the research into the Harmonised app is an evidence based approach to further growth of the intervention (Cooper, 2009).

2.5.2 eHealth and mHealth psychological interventions

There are an increasing number of eHealth and mHealth psychosocial interventions aimed at health promotion, prevention, and treatment. These include web-based interventions, information and education, etherapy or telepsychology in which counselling takes place via a communication channel such as Skype (Barak et al., 2009). The provision of psychological support over the internet faces some unique challenges and requires training programmes to ensure standards and

competency of care around the development, implementation and evaluation of eHealth and mHealth counselling psychological services (McCord, Saenz, Armstrong, & Elliott, 2015). Therefore, the way in which individuals respond to mHealth interventions and the way in which they are developed and evaluated must be part of the toolkit for upcoming counselling psychologists. Whether the goal is to educate the user, provide targeted treatment programmes, or provide a forum for interaction and support, there is need for the counselling psychologist to understand how the intervention works for the user and their experiences with it.

2.5.3 Family systems theory

The role of whānau in supporting taitamariki have healthy relationships can be explored in light of a family systems theory that is fundamental to counselling psychology. Family systems theory posits that individuals are part of a wider system and any issue is fundamentally interpersonal, rather than individual. Therefore, influences or interventions in one part of the family (or system) will affect others in the family system (Murdoch, 2013). The focus for counselling psychologists working in family therapy is usually on the *process* of how things work within the family rather than on *what* is occurring. They use the term “circular causality” to describe the pattern of interactions among family members, with the view that it is not a linear cause and effect relationship (Dallos & Draper, 2010). The Harmonised app is all about relationships, between the primary user and an intimate partner, between peers sharing on a social media platform, and also through built-in functionality, between an adolescent and whānau or family members invited in as a safe person. Thus, the usefulness of the Harmonised app for whānau as a secondary user, may depend on how useful it is for their whānau, and how the app is discussed and utilised within the family or whānau system.

Another factor is the impact of technology, social networking and social media on family systems which is receiving an increasing amount of research attention. It offers great opportunities for connection but at the same time can complicate or threaten previous patterns of communications (Neustaedter, Harrison, & Sellen, 2013) within the family unit. Harmonised allows taitamariki to communicate via technology with a selected safe person, likely to be a whānau member. The whānau member can thus only access the app and support their young person if invited to do so. Therefore, the usefulness of the app for whānau was also explored within the family systems model.

2.6 Summary

This chapter presented a review of current literature relevant to this study. It addressed the role of whānau in the Harmonised app positioning whānau as essential in a Māori centred intervention to address violence, as something taitamariki have requested and beneficial for adolescent wellbeing. It further explored the literature around communications between parents and adolescent children the importance of helps seeking and disclosure for young people in unhealthy relationships. Literature on the role of social media to facilitate communication and help seeking was reviewed as were the benefits and potential negative outcomes of social media use. The evaluation of mHealth apps was discussed including an overview of user experience co-inquiry. The chapter ended with a review of how the study sits within a counselling psychological perspective. The next chapter presents the method employed to explore the research question; the usefulness of the Harmonised app for whānau to support their taitamariki to have healthy relationships.

3.0 Method

In order to explore the usefulness of the Harmonised app for whānau and family in promoting healthy relationships in young people, a series of user experience co-inquiry interviews were conducted within a qualitative descriptive framework. The data was analysed using thematic analysis to identify usability issues and latent themes in user experience. This section outlines the methodological approach and method, and includes a discussion on the congruence between the process of conducting qualitative research and training as a counselling psychologist. It concludes with a section on reflexivity and rigour in the research process.

3.1 Methodological approach: Qualitative descriptive

The research question under study was one that sought to understand both the functional usability and the experience of the whānau user in engaging with the Harmonised intervention. Consequently, a qualitative descriptive methodology was applied. Qualitative descriptive has been described as the least theoretical of qualitative methodologies with a focus on staying close to the data rather than viewing it through a predetermined paradigmatic lens (Colorafi & Evans, 2016; Kim, Sefcik, & Bradway, 2017; Sandelowski, 2010). This flexibility does not mean that qualitative descriptive research is stripped of theoretical underpinnings altogether, but rather that the approach is free from a predetermined positioning in addressing the research question (Sandelowski, 2010). As well as a flexible approach to the research question, qualitative descriptive was also a suitable framework for the research method. User experience co-inquiry is a new process originating from situated co-inquiry which can sit within a number of different paradigms including constructivist, phenomenological and so forth (Carter, 2007).

The flexibility of the qualitative descriptive approach allowed the researcher to take a pragmatic and interpretive stance towards the research question without aligning it with a particular epistemological position regarding the nature of knowledge and reality (Ritchie & Lewis, 2003; Savin-Baden & Major, 2013). Of interest to the current research is a study that posits a link between pragmatism and interpretivism in information systems research (Goldkuhl, 2012). Pragmatism, as defined by Goldkuhl (2012) with a focus on intervention, action and applied practical knowledge, fits well with the usability component of the current study. This part of the research was expected to provide user feedback and suggestions for new releases of Harmonised. On the other hand, interpretivism is congruent with the user experience context of the research question, where the goal is understanding the user's perspective on the usefulness of the app.

To understand the usefulness of the Harmonised app for whānau a degree of interpretation of the users' reactions and feedback was required. Although the qualitative descriptive approach was traditionally described as not overtly interpretivist by Sandelowski (2000), she later refined this, noting that the qualitative descriptive approach necessitates a degree of data interpretation, albeit not as extensive as that found in say, a hermeneutic study (Sandelowski, 2010). An interpretivist paradigm centres on understanding the meanings people have in their lives through the researcher's interpretation of the data. Thus, the researcher "interprets the significance of their self-understandings in ways the participants may not have been able to see" (Grant & Giddings, 2002, p. 16). Even in staying close to the data and not moulding it into the shape of a predetermined framework, the coded and categorised themes emanating from qualitative descriptive research are indeed "nuanced and interpretative products" (Sandelowski, 2010, p. 78). Researchers are required to "make something" of their data, to understand the experience and meaning for participants. This enabled me,

as the researcher, to analyse and also interpret the data, rather than to provide purely descriptive output in understanding how Harmonised could be useful for whānau in supporting young people with healthy relationships.

Other features of the qualitative descriptive methodology also made it a pertinent approach for the current study. This included the investigation of individual's responses in a natural context, and its use when the desired output is an understanding of experience with regard to the use and enhancement of an intervention (Colorafi & Evans, 2016; Sandelowski, 2010). The current study aimed to understand the usefulness in the natural context of the users' circumstances, and to elicit suggestions for future developments. Furthermore, qualitative descriptive usually entail individual semi-structured interviews, purposeful sampling, and content and thematic analysis (Colorafi & Evans, 2016; Kim et al., 2017), all applicable to the current research study and covered further in this section.

3.2 Congruence between qualitative research and counselling psychology

The selection of a qualitative research methodology is also relevant to my therapeutic training as a student of counselling psychology. There are a number of congruencies between the process of conducting research and the skills required in counselling psychology, from the initial selection of a topic through to the presentation of the findings (Thorpe, 2013). The research process is an opportunity for the student to explore their worldview, to assess research topics that are relevant to wellbeing and apply intellectual and empathic curiosity to gain a deep understanding of individuals' perspectives through an integration of research and practice.

Thorpe (2013) breaks down and aligns the five phases of conducting qualitative research with the development of skills for counselling psychology. First,

he refers to the choice of topic and personal reflexivity (discussed in more detail later in this chapter) with a basis in understanding one's own worldview and its influence on either the research or the counselling process. This includes the latent and manifest motivations for choosing a particular topic and pursuing a career in counselling psychology. Second, the interviewing process is analogous to the therapeutic one. The development of an effective research alliance, may well be as important as the development of an effective therapeutic alliance for "the gathering of data that is authentically grounded in participant's experience and gives rise to great depth, complexity and richness of the data gathered" (Thorpe, 2013, p. 38). Both situations require active listening, empathic understanding, unconditional regard and warmth in building a trusting relationship, key elements of client-centred counselling (Rogers, 1967). This is also particularly relevant to the process of user-experience co-inquiry which places a clinician in the usability setting to "get alongside" and build a collaborative relationships with the user (Carter, 2007).

Third, the process of thematic analysis is akin to counselling in the required immersion with the data, not in the detail but in a deeper understanding of latent themes. The information is accessed through a long engagement with the data, and is formed into semantic themes to understand "personal, sensitive, emotionally charged and difficult to articulate" topics (Thorpe, 2013, p. 35). The next step is the development of abstract patterns and themes, similar to building psychological formulations. This necessitates, in both research and counselling psychology, a willingness to remain open to ambiguity and change while delaying the need for immediate gratification in the form of a clear and ready answer. Understanding the boundaries between participant or client meaning and researcher or clinician interpretations is also required when dealing with increasing complexity and higher levels of abstraction in formulating meanings and patterns. The final stage is the

presentation, or writing up of the findings, in a way of capturing the experiences and themes with emotionally engaging reporting, all with the aim of enhancing wellbeing. Thus, the five steps of the research process augmented my development in some of the elemental psychotherapeutic skills I will require as a counselling psychologist.

3.3 Ethics

Prior to research commencing, ethical approval was sought and granted from the Auckland University of Technology Ethics Committee (AUTEC) (Appendix 1) on 19 June 2017 (Addendum to 16/14). Once approval was granted, the recruitment process began. The ethical considerations were primarily to ensure informed consent, privacy and confidentiality, clarity on the use of the data and the safety of participants and researcher. All participants were provided with an information sheet (Appendix 2) and signed a consent form (Appendix 3). However, given the research also involved Māori participants further ethical considerations were made.

3.3.1 Cultural considerations

The Harmonised app was co-developed with taitamariki to be Māori centred yet inclusive, and as such the goal was to ensure Māori participation in the research process, and three of the six participants identified as Māori. Therefore, it was important to broaden my understanding of the research process within a Māori framework, namely Te Ara Tika (Hudson, 2010). Te Ara Tika are guidelines “based upon the application of tikanga and Western ethical principles” (Came, 2013, p. 65) to honour the principles of Te Tiriti o Waitangi and the cultural and ethical appropriateness of the research. They integrate the Te Tiriti o Waitangi principles of partnership, protection and participation within the framework to ensure clear roles and responsibilities of those involved in the research. The guidelines present a continuum of

minimum standards through to best practice for ethical considerations for working with Māori. The research, in receiving ethics approval met the minimum standards across the four aspects of the framework; tika (research design validity), whakapapa (relationships), manaakitanga (social responsibility and respect) and mana (justice and equity).

However, Harmonised was co-developed with taitamariki, the issue is of great importance for Māori, and three of the participants identified as Māori, therefore, the aim was to do more than the minimum standards. The involvement of a Māori co-researcher, Te Wai Barbarich, ensured increased engagement (whakapapa), a more Māori centred research design through the involvement of Māori researcher (tika), and the further development of Te Wai as a researcher in usability testing and in the analysis. Te Wai joined me for two of the interviews with Māori participants, facilitating the interactions and helping explore some of the issues when they occurred. For example, Te Wai helped clarify issues of the information sheet for the participants by summarising it and emphasising key points. Te Wai's approach was to tailor the information to the needs of the participants ensuring cultural safety so that they were aware of their rights and the roles of all those involved in the interview process

3.4 Method

3.4.1 User experience co-inquiry

The method employed to gather data in the current study was user experience co-inquiry. This method dovetails into the qualitative descriptive approach as it is theoretically flexible, uses a naturalistic evaluation of the users' experiences as they interact with the app, and has minimal structure in the interview process. It is a new,

and relatively untested approach to the exploration of mHealth and eHealth usability. User experience co-inquiry, having emerged from situated co-inquiry, is a form of the think aloud protocol of usability inquiry or testing and is designed to gain a deep understanding of users' emotional, cognitive and physiological responses to an online or mobile artefact (Carter, 2007). A recent systematic review assessing usability testing in mHealth found only one think aloud protocol in 22 studies, noting the rest relied on logs, interviews and questionnaires for evaluation (Zapata, Fernández-Alemán, Idri, & Toval, 2015). However:

think aloud protocol has long been used in usability testing as a way of drawing out the participants' cognitive and emotional responses while they are engaged with the application, and it also encourages them to reflect on their decisions and behaviour (van Velsen, van der Geest, & Klaassen, 2011).

The method of user experience co-inquiry can be applied to explore user and therapeutic goals to inform clinicians, and build a best-practice approach to assessing eHealth and mHealth interventions for future development. It is of particular interest in application to Māori and Pasifika, and the usability and clinical evaluation of interventions (Feather, Carter Koziol-McLain, & Parry, 2014). The original method of situated co-inquiry includes the user, a facilitator and a logger, in which the facilitator sits alongside the user who thinks aloud while using the app. The facilitator prompts and explores the users' experiences as needed, to elicit more information, while the logger records the conversation and tracks the screen movements. Analysis is instantaneous, occurring during the session with the facilitator formulating usability and usefulness evaluations throughout. This study applied a modified method, still clinician facilitated and user led as has been previously applied (Gilbert et al., 2016) but this time without a logger, mirroring or screen capture, and with analysis occurring post the inquiry session.

The user experience co-inquiry method was explored and clarified in a workshop with other researchers working on the Harmonised project prior to the usefulness research beginning. As a new and evolving method, this was required to explore developments to the original situated co-inquiry method and co-create the process. These sessions also touched on the idea of a formulation model of analysis of usability and user experience in interacting with an mHealth intervention similar to the psychological formulations made in counselling (Johnstone & Dallos, 2013). This was explored given one of the goals of the user experience co-inquiry goals of a method is to aid clinical decision making. However, it was felt that the formulation model would possibly develop from the analysis of user experience interviews, for testing in further research. The agenda for the workshop and the draft manual prepared for the workshop can be referred to in Appendices 4 and 8.

3.4.2 User experience co-inquiry with Harmonised

The user experience co-inquiry method utilised with the whānau involved users sitting down alongside an interviewer (and in some instances a co-interviewer) and working through a semi-structured interview and usability inquiry. They were given the interviewer's phone with the app on it and asked to work their way through it. The use of the interviewer's phone was to avoid use of participant's data allowance and also to avoid unregistered access to the application. The interview guide (Appendix 5) outlines the initial set up and background questions, think aloud process and follow up questions. The think aloud protocol formed the middle section of the interview and entailed the user working their way through the Harmonised app whilst talking out their thoughts as they came to mind. Prompts were used to encourage them to elucidate thoughts and to also remind them to continue to speak out. The interviews lasted between 30 and 60 minutes and were audio taped and transcribed.

The Harmonised version at the time of research contained a number of pages or screens (see Appendix 6) including:

- Four introductory pages:
 - What is Harmonised
 - Posting
 - Privacy and helping others
 - Values and relationship health
- Six articles titled:
 - Worried about a friend and not sure what to say?
 - Seen a post and not sure if it's okay
 - Worried about taitamariki and not sure what to say?
 - Sometimes it's hard to know what to say and how to say it
 - Talking with your children about dating and relationships
 - Need someone you can talk to?
- Five example posts (posted by test users)
- Profile page with information on values, health, settings (feedback, privacy, terms and log out) and sharing (inviting in a safe person)

The participants had access to the introduction pages, the articles and posts. The profile page was only accessed by three of the participants who navigated there. The set-up profile page with information on values, health and settings is designed for the taitamariki (primary user). Whānau/safe people (secondary users) would not have access to these pages as they would not be required to set up a relationship profile on the app. However, they would have access to the posts that their young person invited them to view and or comment on, so it was beneficial for the participants to have access to a range of posts. The version of the app presented to participants was still in

the pre-trial phase (e.g. it had not undergone localization of content into Te Reo Māori).

3.5 Participants

3.5.1 Recruitment

Participants were recruited through a derivation of purposive sampling, which included a snowball and convenience approach. This is in line with common methods in qualitative descriptive studies (Kim et al., 2017). Purposive sampling does not aim for statistical representation but to capture salient criteria in order to explore the research question (Ritchie & Lewis, 2003). In this case it was to interview family or whānau of 13 to 17-year-old adolescents. To meet the Māori centred, yet inclusive, design of the intervention, both Māori and non-Māori were interviewed. Therefore, there was a degree of heterogeneity in the sample in terms of ethnic, cultural and socioeconomic background. However, there was homogeneity in gender, as all were female, and all the participants were mothers of 13 to 17-year-olds. (For further research into Harmonised's usefulness for whānau and family, males will also be interviewed with the information fed back into the Harmonised project team for consideration in app development). The sampling was also convenience and snowball sampling as participants were sourced through the social and work networks of the researchers, albeit to meet the necessary criteria of a familial or whānau relationship with a school aged adolescent.

3.5.2 Participant description

Six women were interviewed for the current study (see Table 1). Three identified as Māori, one as Pasifika and two as Pakeha. The participants had children ranging from one to five in number with an age spread from toddlers to children in the mid-twenties. However, each participant had either one or two children in the target

age range, with a mix of sons and daughters. The participants were asked where they would like to be interviewed, and five selected their homes, with one selecting to be interviewed at their place of work. Four of the participants were single parents with either full or shared custody of the teenage children. Participants were offered Koha in the form of supermarket voucher to acknowledge their time and contribution to the research study.

Table 1: Study Participants

Participant	Gender	Ethnicity	Status	Age (gender) of children
CW	Female	Māori	Single parent	24 (F), 21 (M), 15 (F), 12 (F)
WH	Female	Pakeha	Single parent	18 (M), 17(M), 11(M)
HB	Female	Pakeha	Married	20 (F), 13 (M)
TD	Female	Māori	Single parent	14 (M), 13(F), 8 (M)
NP	Female	Māori	Single parent	22 (M), 20 (F), 17 (F), 13 (F), 10 (F)
LH	Female	Pasfika	Married	16 (M), 3 (M)

3.6 Data Analysis

3.6.1 Thematic analysis

Although content analysis is the most often used analytical approach in qualitative descriptive studies (Kim et al., 2017) because it stays close to or “true” to the data, thematic analysis can also be applied (Sandelowski, 2000). Thematic analysis is a way of identifying the key patterns and themes in the data through a process of coding and categorisation. Thematic analysis is not specific to any particular theory or epistemological framework, and this flexibility means it can be readily applied within a qualitative descriptive methodology and the user experience co-inquiry method. It allows for a detailed and rich interpretation of the data and a means of identifying and

reporting on patterns relevant to the research questions (Braun & Clarke, 2006). As illustrated below there are distinct differences between content analysis and thematic analysis, with thematic analysing providing the descriptive, interpretative and depth of analysis sought in this study (Vaismoradi et al., 2013).

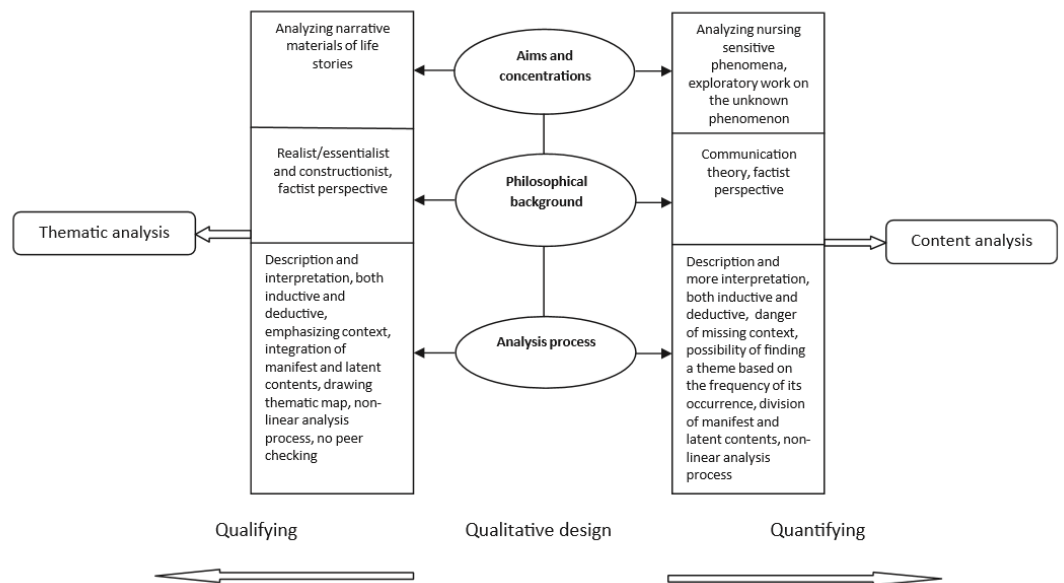


Figure 1: Thematic analysis in qualitative descriptive analysis (Vaismoradi et al., 2013, p. 299)

The process of thematic analysis in qualitative descriptive can be inductive or deductive. Themes may be created from the data in a ground up approach (inductive), developed as the data is coded and interpreted but can also be fitted into an existing thematic framework (deductive). For this study, an inductive thematic analysis was applied to the data to elicit patterns and themes. The rationale was that in exploring the usefulness of the Harmonised app for whānau users, the data included information on both the functional usability of the app and the experience of the user. This was despite the existence of models through which usability and user satisfaction can be assessed. One example is the Mobile App Rating Scale (MARS), developed by an interdisciplinary team from psychology, mHealth app developers and interactive

designers (Stoyanov et al., 2015). MARS assesses the user perceived quality of health and wellbeing apps through a rating scale for the following categories (see Table 2) which have been tested against 50 mHealth apps. However, given the nascency of the user experience co-inquiry framework, it was deemed appropriate to see how the users' interaction occurred without pre-existing assumptions or forcing the data into a predetermined theoretical model.

Table 2: Mobile App Rating Scale (MARS) criteria (Stoyanov et al., 2015)

Category	Items
Engagement	Entertainment, interest, customisation, interactivity, target group
Functionality	Performance, ease of use navigation, gestural design
Aesthetics	Layout, graphics, visual appeal
Information	Accuracy of the app description, quality of information, visual information, credibility and evidence base
Subjective quality	Likely use, frequency and overall rating

The inductive process of analysis allowed for the development of semantic and latent themes from the data that were not predefined. Semantic themes are those that reflect the specific patterns of content in the data, whereas latent themes address the underlying assumptions and related concepts within the data (Braun & Clarke, 2006). In interpreting the data at the latent as well as semantic level, it allowed the researcher to make more meaning of the user experience. As mentioned earlier, this is an essential skill for a counselling psychologist and enabled a deeper understanding of the potential usefulness of the app for whānau.

The thematic analysis process followed the six-steps outlined by Braun and Clarke (2006). These are: data familiarisation, code generation, searching for themes,

reviewing themes, defining themes, and writing the report. Data familiarisation was established through repeatedly listening to the audio taped interviews and reading of the transcripts. Although some people state that transcribing one's own research is an essential step in the process, Braun and Clarke (2006) note that this is not the case. A transcript that is true to the recording, capturing the verbal account with appropriate punctuation and detail of non-verbal's (e.g. laughter) is what is required. Although I outsourced the transcription, this did not prevent me from listening to the audio taped interviews a number of times for familiarisation. NVivo was used to assist with code generation giving equal attention to each data item and allowing for multiple coding of one piece of data and an open mind as to what would emerge. Once the data was coded, initial themes were made from groups of codes that overlapped or were interrelated in some way. Next the themes were reviewed by assessing the codes and extracts under each theme for a coherent pattern and similarly an accurate representation of the data across the full set. This was a reiterative process and overseen by supervisors to confirm that the themes were cohesive. Once reviewed, the themes were named and defined and finally the report was written.

3.7 Reflexivity & Rigour

3.7.1 Reflexivity

Reflexivity must be addressed when conducting qualitative research. All research is inadvertently influenced by the researcher's worldview and approach, and there is no truly objective or neutral knowledge derived from qualitative research (Ritchie & Lewis, 2003). As such, personal and psychological reflexivity helps researchers explore their own position and its impact during the research process. It also assists them to understand how they have interpreted and imposed meanings on to the data (Savin-Baden & Major, 2013). Thus, the exploration of a researcher's own

experiences and motivations from a number of perspectives becomes an integral part of the research process. Unable to be separated from it, the researcher's influence must be made overt:

The mandate for researchers embarking on any qualitative study is to make explicit—for themselves and others—where they were when they began their studies and to be ready and willing to move away from there if their further investigations warrant it. (Sandelowski, 2010, p. 80).

Through this process of reflection and reflexivity, clarification of position and beliefs, and statements of potential bias, the authenticity of the research is enhanced and its rigour increased (Davies & Dodd, 2002; Ritchie & Lewis, 2003).

Accordingly, I undertook a process of self-reflection and reflexive practice throughout the research. This began with a review of the choice of topic to understand my motives for the area of focus; whānau usability of the Harmonised app. Manifestly, it is an extension of my prior research (Howson, 2014) into methods of evaluating user experience with eHealth applications. Moreover, it entailed the practical application of the situated co-inquiry method that I had experienced in workshop settings in 2014. Furthermore, as the mother of three children, the eldest having just entered the teenage years, the topic is of particular relevance. My children are potential users of the app and I am starting to think about how I will approach the issue of their intimate relationships over the next few years. In consciously acknowledging the different approaches to parenting, and parent-child communications, I was able to ensure that my views and experiences were not directly influencing my interpretation of the data. Throughout the analysis phase, I kept note of the themes in a reflexive questioning process so that I could remain open to the themes that are found within the data.

In addition, I was aware of the cultural diversity among the participants and very aware that our worldviews may be quite different in terms of approach to family, young people and parenting and also in terms of socio-economic and educational resources and support available. It was challenging to be reminded of the challenges in these areas for some of the participants. At the same time, I drew on my own experiences of my teenage years growing up in a state housing area with a single mother with limited resources and three teenagers. In that sense I felt for the participants and also for my mother and the challenges she faced. The resulting interpretations of the data will have been influenced by these experiences yet the degree may well be at an unconscious or latent level.

3.7.2 Rigour

Rigour is an essential component of the research process as it refers to the trustworthiness, confidence and credibility of the study (Vaismoradi et al., 2013). A key feature of ensuring rigour is through the reflexivity of the researcher in making transparent biases and assumptions throughout the process (Darawsheh, 2014). In addition to reflexivity, rigour was enhanced through other means. Audio-taping the interviews rather than relying on note-taking, ensured information that may have been missed, such as laughter, tone and pauses are captured. It allowed for repeated and prolonged engagement with the data to assess themes and patterns (Tong, Sainsbury, & Craig, 2007).

Braun and Clarke's (2006) 15-point checklist for criteria of good thematic analysis was also used as guideline for assessing the rigour of the study (see Table 3). However, it should be noted that some question the appropriateness of using any predetermined criteria to assess the rigour of qualitative research (Rolfe, 2006). If each study is unique then assigning external criteria is futile for assessing its quality.

Table 3: 15-point check list for quality thematic analysis (Braun & Clarke, 2006, p. 96)

Process	No.	Criteria
Transcription	1	The data have been transcribed to an appropriate level of detail, and the transcripts have been checked against the tapes for 'accuracy'.
Coding	2	Each data item has been given equal attention in the coding process.
	3	Themes have not been generated from a few vivid examples (an anecdotal approach), but instead the coding process has been thorough, inclusive and comprehensive.
	4	All relevant extracts for all each theme have been collated.
Analysis	5	Themes have been checked against each other and back to the original data set.
	6	Themes are internally coherent, consistent, and distinctive.
	7	Data have been analysed – interpreted, made sense of – rather than just paraphrased or described.
	8	Analysis and data match each other – the extracts illustrate the analytic claims.
Overall	9	Analysis tells a convincing and well-organized story about the data and topic.
	10	A good balance between analytic narrative and illustrative extracts is provided.
	11	Enough time has been allocated to complete all phases of the analysis adequately, without rushing a phase or giving it a once-over-lightly.
Written report	12	The assumptions about, and specific approach to, thematic analysis are clearly explicated.
	13	There is a good fit between what you claim you do, and what you show you have done – ie, described method and reported analysis are consistent.
	14	The language and concepts used in the report are consistent with the epistemological position of the analysis.
	15	The researcher is positioned as <i>active</i> in the research process; themes do not just 'emerge'.

Therefore, the check list was used more as a training guide for conducting the thematic analysis, as well as contributing to the rigour and quality of the research process

3.8 Summary

The research followed a qualitative descriptive methodology, employing user experience co-inquiry as the method of data gathering. Six participants were interviewed and the audio-taped transcripts used to code the data into semantic and latent themes. The next chapter presents these results.

4.0 Results

The aim of the research study was to explore the usefulness of the Harmonised app for whānau and family in supporting young people have healthy relationships. To do so, familiarisation with the data, code generation and a process of inductive thematic analysis was undertaken. From this process three semantic organising themes were identified, defined and reviewed: the usefulness of the Harmonised app, its usability, and user context including concerns for taitamariki. Each of these organising themes contain sub-themes of related data. Through the process of exploring the data, defining and reviewing the semantic themes, a latent thematic model of Harmonised's usefulness for whānau emerged. This latent thematic model centres on the unique needs and key issues whānau have with regards to their taitamariki, and how the app intersects with these. This model has implications for the further development, dissemination and use of the Harmonised app, and as a framework, can enhance the way in which mHealth and eHealth usefulness is explored.

4.1 Participants

The six participants, as detailed in the method chapter, were all women, aged in their 30s or 40s. Therefore, the whānau represented in the study were all mothers in terms of relationships to taitamariki. Three of the participants identified as Māori, one as Pasifika and the other two as Pakeha/NZ European. Four of the participants were single parents, two were married. They were all mothers of between one and two school-aged teenagers, although all the participants had other children outside the age range. Three of the participants had girls in the targeted age range, two had boys and the remaining participant had both a boy and girl. The children were all, with the exception of one participant's (TD) son who lived with his grandmother, living with the participant, although two had shared care (whilst having the majority of custody) with

the children's fathers. For another two participants, the custody arrangements were not disclosed. All participants lived in Auckland and came from a range of socio-economic backgrounds.

The degree to which the participants interacted with Harmonised varied across the user experience interviews. During the interview, and again in reviewing the transcripts, it was apparent that three of the participants (WH, HB and LH) were clearly focused on the usability features of the app, as well as talking about their own circumstances and context. Two participants (CW and TD) were moderately engaged with the app during the interaction. One participant (NP) spent very little time looking at Harmonised and the interview centered on concerns for her whānau and need for support. Of interest is that CW, TD and NP all identify as Māori, that the Harmonised is Māori centred (although the version of the app used during the interviews had not been fully translated into Te Reo) and yet they focused more on the broader issues of whānau and overall needs than a detailed exploration of the usability of the app.

4.2 Overview of semantic themes

This section presents the three organising themes that were identified through code generation and an inductive analysis of the data. These themes and associated sub-themes (see Table 4) are presented below and supported with quotes from the interviews in the following sections.

Table 4: Organising semantic themes and subthemes

Theme	Sub-theme
Usefulness of the Harmonised app	Facilitating communication Education and resources Access to a safe person Extension of social media
Usability of the Harmonised app	Safety and security Content Functionality Aesthetics
Whānau context	Concerns about taitamariki Girlfriend/boyfriend relationships Communicating with taitamariki Background and experience Kaupapa Māori approach Support options

4.3 Theme One: Usefulness of Harmonised for whānau

Emerging from the participants' interaction with Harmonised was a main organising theme around the perceived usefulness of the app. The app's utility was discussed in reference to young people in general, rather than the participants' own children or whānau. There was a focus on how the app would help young people as opposed to directly helping the whānau member or safe person. The helpfulness of the app for the participants was described in terms of its ability to help the young people with issues beyond relationships notably; facilitating communication, education, access to a safe person, and as an addition to the social media young people currently engage with.

4.3.1 Facilitating communication

All six participants referred to Harmonised as a means of facilitating communication for their young people through their ability to post issues and seek information and advice. There was the view that young people would find it easier to

write things down than to raise them face-to-face with their parents, friends or other safe people.

I mean I can see an app would have value-- like, for instance, if someone like my son didn't want to actually vocalize it to me. Well not just him, I know lots of kids that might feel safer not having to do it face to face where they'll feel embarrassed. That would feel safer just messaging back and forth. Yeah, then it might be easier for them to put it in words without having to sort of face you or something. (HB)

You don't need to talk, you can write things... not everyone is comfortable with those conversations which is where this has come in. (LH)

Moreover, communicating over an app was a way of ensuring that important things were shared rather than being kept in.

No, I mean help people who think those stupid things. They could actually look on that and then write all this blah, blah, blah on it instead of just hurting themselves.... Because do you know that might stop some of the suicidal shit. (NP)

Posts were viewed by four of the participants as the starting point of a conversation, with the preference of these conversations to then be followed up on face-to-face.

So that stuff is important but then I'd still think it would be a beginning space to have contact. When things like that happen, it needs to be real time, not web time. (CW)

In addition, the Harmonised content (articles) was viewed by three participants as a starting point to initiate discussions with their young people, either though sitting down and exploring it together, or through information on how better to communicate.

...and he doesn't talk to him about anything. And, as I said, it can be hard to talk to him. So maybe you could sit down with this and, "Okay, let's just go through some of these." I could see myself doing that with him. Yes. "Let's just have a look at this. (WH)

So, for him I'd love but-- yeah, just information on communicating, yeah would be great for him. Yeah. (LH)

Communication was also related to the option of a safe person with whom taitamariki could share.

4.3.2 Access to a safe person

All participants discussed the importance of having a safe person available for the young people on the site. They felt that it was important for an adult to know what was going on in their lives and someone with whom the young person felt comfortable. A number of participants were explicit on the notion that the safe person should be an adult rather than a friend.

I would be fine with it. It would be quite cool. If it wasn't me, then it would be someone else. I think it's really important that they have a safe-- I would say adult. (CW)

Although, some expressed the idea that the preference was for the participant as parent to be selected as the safe person, all participants thought that having someone available that the young person could 'talk' with was more important.

Yes. She would probably choose somebody that she knows she can trust and talk to. Like she could be up at night and worried about something, but she won't come and talk to me. I guess having someone that she can talk to. (TD)

However, one participant pointed out that just having safe person selected did not necessarily ensure that young people would be forthcoming with important information to their parents, although at least they were talking with someone.

It's very important to know what's going on because kids don't tell you if something really bad is happening half the time, I don't think. But then if they're not going to tell you, will they make you a safe person on this? I mean, I guess as a parent, I think maybe they'll make other people safe people, I don't know. (HB)

Another driver of Harmonised's usefulness was in how the content and resources could be used.

4.3.3 Education and resources

All six of the participants mentioned that Harmonised was useful in terms of providing education to both themselves and their young people on relationships and communication skills. It was viewed by one participant as a way of providing insight to

young people on their own situation, about ideas on consent and communication, and to another participant as providing a language to describe ideas around relationships.

...and people can't see- quite often can't see when they're in unhealthy relationships. (HB)

It's about explaining what's going on with them. It just makes good sense. It will also allow the children to have language to actually describe what's happening. (CW)

Furthermore, advising young people where they can go for help, having information available on hand (via mobile) and the ability for whānau to search for data was seen as valuable.

I think if it does look like it had good articles, you could use it to search up an article if you think your child needed some advice like that. (HB)

If he can get it straight away because he has a phone, that would be awesome. (LH)

One participant felt that although the potential to educate children through the app was good, that it would be more beneficial at a younger age when children were at intermediate rather than high school.

No. I'm just thinking kids at a younger age-- and when they learn stuff, they're just a little bit more onto it and then they can discuss how they're feeling and things. I do think that that would be what would be done. And Intermediates are smaller as well, you know what I mean? Not in a large school. I just think it would probably make a difference. (CW)

4.3.4. Addition to existing social media

Three of the participants commented on the usefulness of the Harmonised app in direct reference to its similarity to Facebook with one participant noting that it offered more, with another participant noting that young people may end up defaulting back to what they have used before.

Facebook is more-- they don't express their feelings and their problems, they're just ranting pretty much. It's more socializing than anything-- looking here... I kind of see it as more helpful. (TD)

You know.... you're already kind of sitting there thinking that you already have one media... there is something you know, kids use all of that stuff anyway. I don't know. It would be really interesting to see what the feedback you get from the schools and how much the kids actually do use it. Or do they automatically default back to Facebook.
(CW)

4.4 Theme Two: Usability of the Harmonised app

The usability of the Harmonised app was a key theme that emerged throughout analysis and was defined by feedback related specifically to the features of the app, rather than its perceived usefulness or application. The interaction the participants had with the app elicited four organising sub-themes of safety and security, content, functionality and aesthetics.

4.4.1 Safety and security

The concerns raised by the participants in raising their young people were reflected by all in reference to the safety and security of the Harmonised app. The safety and security were not specifically for their own children but for any young person using the app.

Yeah, my main concern is just making sure to keep it a safe place. Yeah.
(HB)

A range of usability issues were captured under the theme of safety and security.

4.4.1.1 Moderation or monitoring of posts

The ability to respond to unsafe posts or comments was raised by a number of the participants. Most important was the need to understand who had access to what posts.

Would I just be seeing posts from the person who invited me to be a safe person? Or would I be seeing other people's posts is a question in my mind. (HB)

The degree of access to posts needed clarification. Participants were not sure if they would have access to all public posts or just the posts they had been invited to view or

comment on by the young person who invited them in. Some expressed a desire to have access to public posts. The rationale was that a public post, only viewed by other young people (and no safe person), may not receive appropriate advice.

If they're seeking advice from someone and that person isn't experienced, they could end up in quite a bit of hot water as well. You'd actually want them to have someone who has good judgment and a bit of experience I think. Because that's where you can get into that thing where a group of kids get together and things can just get out of hand because none of them actually know what they're up to. (CW)

Another concern was that someone may need immediate help and no-one would be able to provide it.

Because say you can't comment, right? Say you come across something. You read something and you think, "Oh my God, she's 13. And it's like 1 o'clock in the morning, and they've just put this up." Right? And you think, "Oh my God, this 13-year-old is in trouble or--" but you can't comment on what-- yeah. You see something, 1 o'clock in the morning, "Oh my God, this girl needs help. Who's there helping her? Who can help this girl at this moment?" What could you do about that? (WH)

However, the fact that young people could select public or private was also seen as a positive feature by two participants.

No, I like that, where it can be private, but if you want other's opinions it can be public. (TD)

The age of the young person posting was also seen to be of potential relevance to one participant, who gave an example of a question concerning sexual activity that might be viewed and responded to differently if the young person posting was 13-years-old rather than 17-years-old.

The ability to have an adult see and respond to posts either through moderation, or providing feedback on a post or previous comment, was raised by half the participants.

If someone had commented, could you then-- because I mean you're not always going to agree with everyone's advice, are you? I wouldn't think. And if you don't agree with someone's advice can you put a comment on it. "Actually, I think that that's incorrect advice." (WH)

Two of the participants referred directly to the idea that the site should have formal moderation or monitoring to ensure safety and appropriateness of the posts and associated comments.

Oh, I just-- well, I think this sort of for these sorts of issues you definitely need a kind of reporting page to protect against unsafe things. It immediately raises the question to me who's monitoring it? (HB)

4.4.1.2 Young person control

The ability of the young person to have some control over the app was important.

I'm just thinking about the problems that your child might face in situations they'd want to control. (HB)

Control of the app could be achieved through the ability to post either publicly or privately, and the anonymity of the poster. (Although this was not a feature in the test model, the participants were informed it would be part of the next Harmonised release).

So instead she could have wrote up all this stuff and didn't have to even let out her name... Online. Someone that can't see it and know who it was. (NP)

Additional safety features were suggested, such as the non-selection of school if possible, and the ability to delete posts and uninvite a safe person if they were no longer deemed safe.

I was actually going to say, if you didn't select a school because you know, what happens if the kids didn't actually want to identify with what school they went to. (CW)

If someone regretted inviting someone or if something went wrong with friend relationship or if someone found out their secrets had been spilled or something. You'd definitely want to have an easy functionality to control that. (HB)

These concerns were to do with the emotional safety of the taitamariki from the mothers' perspectives yet there was also a sub-theme around the technical security of the app.

4.4.1.3 Technical security

Three of the participants referred to the technical security of the app through the log-in, password and pin number process. The use of a password and pin number was seen as providing double security to prevent others seeing private information. Additional security was also suggested.

Oh, it's got an alert. Yeah. One of the things I noticed on the banking apps, this is um blurred when—like, so say if you were on it and you forgot to shut it and you shared your feelings or whatever and someone went onto your phone, as they do, they grab each other's phones all the time. (LH)

4.4.1.4 Safety from paedophiles

Two of the six participants commented on the need for the app to ensure security from people posing as young people in the social media network.

How are you going to stop someone posing to be a such-and-such's auntie and it's a 55-year-old man? (WH)

They were wanting reassurance that the young people would be interacting only with their peers and safe people, rather than imposters, relating to their concerns in general around paedophiles on on-line media.

4.4.2 Content

The content of the app was commented on by all the participants during their engagement with the app. Available and desired content, and an understanding of the relationship profile for the primary user all featured.

4.4.2.1 Available content

The articles elicited a positive response from the participants, who found them useful and clear to read. In particular the article on talking with your children about dating and relationships was viewed as helpful and relevant by all participants. Also mentioned was the article on what to say and how to say it as of particular use.

Hints. Helpful hints. You know it in your head but it's not coming, sort of, you're not sure how to say it. (TD)

The length of the articles was seen as a positive by one of the participants.

So it's good. Yeah. So it's very clear. Yeah. Because often you can start reading stuff-- not particularly this. But you'll start to read something, and you think, "Oh my God, there just so much to read," that you just don't actually read it, or you just skip it. But yeah, that was simple, because, obviously, you're not going to want it to be too complicated, are you? And for kids as well. Yeah. (WH)

The content was seen to be helpful for both taitamariki and for themselves as whānau.

I think that that's actually really cool. (CW) [Article on talking with kids about dating]

4.4.2.2 Desired content

Participants identified additional content that they felt would be helpful for themselves and young people. This included information on sexual consent, helping teenagers deal appropriately with anger, relationships in general (such as friendships) and how to talk to adults. For example, content that included a quiz for teenagers to think about what kind of relationship they were in, was suggested.

It's almost like you could do one of those-- it's like magazine quizzes, in terms of things that if you-- I don't know if there's an activity somewhere for young people where they could be actually answering questions like this and finding out what category their relationship is. (HB)

4.4.2.3 Relationship profile

The relationship profile refers to the primary user, the young person, setting up a profile when they first use the app. Although the invited safe person or whānau would not see the young person's profile or set one up themselves, three of the participants did find their way to the set-up relationship profile page on the app and therefore saw the relationship rating ("terrible to "great") and the values that can be assigned to the app. When posting, the young person can select the values that are relevant to the post. Two participants commented directly on the values. One felt the values "*seemed like a pretty good range*" (HB) and another mentioned that most of the 20 values looked important and that she would want to be able to discuss the selection or non-selection of values with her teenage son.

Because if they didn't tick some of these you'd be very concerned. Honest, valued, the majority of these you'd hope that they'd tick them all, wouldn't you? But if they only ticked a couple, you'd want to discuss with them why not. (WH)

The rating of values from "great" to "terrible" also received a comment with one participant liking the criteria checklist for each, although the term "terrible" had her in two minds.

I'm conflicted. yeah, the other side of it is having kids then reflect on the situation that they might not have realised, on a bad relationship. I don't know. I guess maybe it's just this word, terrible, sounds a bit-- you wouldn't want-- it'd be like getting a bad report, wouldn't it? You wouldn't want to get something that said, "terrible." (HB)

The participant also likened the rating of the relationship against criteria with the NCEA (National Certificate of Educational Achievement) scoring system used in high schools, and thus a familiar process to young people.

4.4.3 Functionality

Sub-themes on functionality related to the way in which the user was able to navigate through the Harmonised app and also the ability read and respond to posts.

4.4.3.1 Ease of use

Five of the six participants referred to the process of navigating through the app, with most of the feedback positive as to its simplicity.

Well, it responds well and it's pretty straight-forward. (LH)

The ability to turn the notifications on or off was seen positively by a participant to avoid disruption. The symbols were also commented on positively by four participants. The hearts for “likes”, the speech bubbles for commenting and the magnifying glass for searching were described as easy to understand and similar to other applications such as Facebook, Instagram and email, thus making it easier to navigate.

All the symbols. It's fairly universal, isn't it. (HB)

Although the functionality of the app was viewed positively overall, a couple of specific issues were mentioned that could be improved upon. Half of the participants wanted to be able to return to the page they had last looked on when they went back into the app rather than the first article that appeared.

Back to the beginning. So I would like it to actually go back to where I left off last not, yeah, back to the beginning. (TD)

Two participants mentioned it would be good to have the information coming up in a Facebook like feed that could be scrolled through

I guess just time rather than pushing down on each card, it's just easier to scroll through and you can see a lot more info on one screen. (LH)

One of the participants noted that one of the URL links to resources did not work and another expected to see the phone number for resources go to the option to “dial now” as was common on web-sites and apps accessed on a mobile phone. The log-in process was commented on by two people who noted that it was counter intuitive where to press to bring up the keyboard and start typing in name or email. The inclination was to push on the word ‘email’ rather than press in the blank space halfway across the screen.

4.4.3.2 Posting functionality

The ability of young people to post was raised by the majority of participants with many comments centred on the posting functionality. As whānau and safe people are not able to set up a relationship profile or post, they did not understand, nor did they expect to understand the different elements of the examples they came across. An example of a post is presented below to illustrate the following comments.

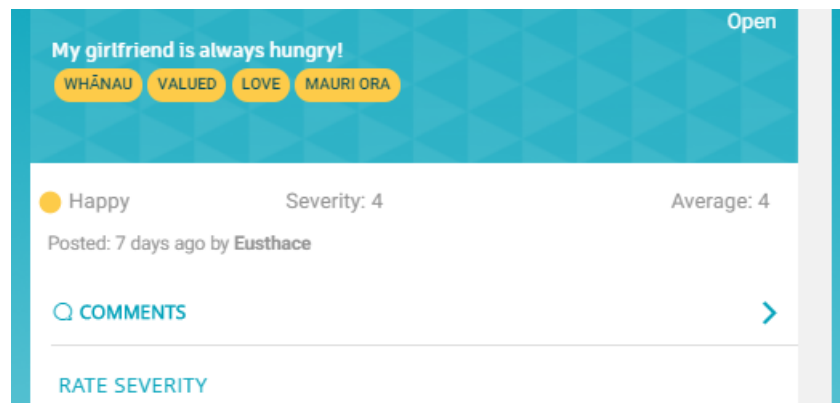


Figure 2: Example post from Harmonised

The ability to comment on a post was not clear for two participants. Harmonised requires you to press on ‘comments’, which takes you to a page with ‘public’ comments, but it is not clear from there how to make a comment. You need to then click on ‘public’ (or ‘private’ for a safe person) to be taken to another page where the comments are displayed, and at the bottom is a small banner with ‘send a reply’.

.. and then I can make a reply. But I don't really understand why that's a two-stage process. It should just be a one-stage process to hold comment and then immediately obvious how to make a comment, yeah.
(HB)

There was some additional confusion for four of the six participants as to the purpose of the yellow tags on the post. These represent the value that the young person selected as pertinent to the post, yet not all the participants were aware of what the values were and thought they may be tags, or links, to a definition.

I assume that's people assigning tags and or to what category this message comes under. So, in this one, we've got a love, confidence and attraction. So, I guess I could push one of them. I'll push confidence. And nothing. That might just be this testing version. It looks like something might happen. (HB)

A further point of confusion for two of the participants on the posting page was the 'open' word at the top of the post. They felt that this would open the post if pressed rather than it being 'open' (as in unresolved). Five of the participants made a direct reference to the severity rating feature, with a theme of trying to understand what the severity rating actually meant and how it was used.

Yeah. Right severity? So, they're angry. Oh, they're angry. See that's the thing, I don't really get that. That confuses me a little bit. I'm like, "They're angry?" Should I-- but they are only three angry, which is okay. (LH)

Okay. If you want to go just-- yeah. Okay. You can back. I can also put a rate on the severity. (TD)

Other comments on the posting feature were concerned with safety and access and are discussed separately below.

4.4.3.3 Sharing content

The function of sharing or adding to content was raised by three of the six participants. They liked the notion of selecting an article as a favourite for further reference. However, two wanted to be able to share articles with friends either digitally or through printing off the interesting article.

Well, it's even if they're not on here. If you've got a girlfriend or someone that you want to send it to, someone who's going to find it useful, how do you do that? (CW)

Another wanted to understand how they could potentially suggest an article or resource for the site.

Is there going to be a "contact us" or something button on there where you could say, "This would be a fantastic article for young people. Positiveness and empowerment as an example. Here's the link. Maybe you could put it up. (WH)

4.4.3.4 Accessibility

Two of the participants commented on the app's accessibility as contributing to its functionality. Firstly, that young people were steady users of social media and mobile phones and the data requirement of the app was small.

Yeah. And it's cool. It wouldn't use much data just looking at it either. There's not a lot of videos. (LH)

4.4.4 Aesthetics and design

The design and aesthetics of Harmonised were mentioned by only two of the participants as they worked their way through the app. The feedback was positive with the participants liking the colours, including the use of colour to convey emotions on the posts. The design was clean and modern and the images of real people appreciated.

Okay, my first impression is I think the real modern clean design even of that first logo that popped up and I think that looks kind of modern. (HB)

Yeah. I like the pictures. I like pictures of real people. I mean there's lots of cartoony ones and stuff but that's quite-- I think it brings sincerity to the app in a way and makes it more, yeah, in touch with a real person. (LH)

In addition to the usefulness and usability of the app, a further high level organising theme emerged at the semantic level, one that captured the context for the participants.

4.5 Theme three: Whānau context

The participants context and situation as the mothers of school age teenagers is the third organising theme to emerge from the data. It brings together the concerns they expressed for taitamariki, their children's relationships, communication, user background and experience, including a Kaupapa Māori approach, and other sources of support.

4.5.1 Concerns about young people

During the user experience co-inquiry, the participants referred to a number of concerns they had in the context of raising teenagers. These came up at various stages in the interviews and were not always directly related to their own children or whānau experience but to the broader issues of teenage mental health and safety.

4.5.1.1 Bullying

Bullying was explicitly mentioned by three participants as a concern for taitamariki. One participant, NP, mentioned that her 13-year-old daughter had been subject to bullying at school due to her friendships with boys.

She gets bullied.... She hangs out with fellas. But they are her cousins.... and a lot of the girls like the fellas that she hangs out with. (NP)

Another participant referred to two of her son's friends being bullied to the extent they had to change schools. Indirect bullying was also raised in the way in which friendship groups change and that it can be a negative mental health experience for young people.

Friend groups can turn bad quite easily, and suddenly someone that you've shared all your intimate confidences with is able to use those against you. (HB)

4.5.1.2 Teenage mental health and suicide

Teenage mental health was an undercurrent for most of the participants, noting the particular vulnerability of adolescents.

...and you can say they'll get over it, but really the way their brains are at this age, that it really does take over their brain. (HB)

This was also linked to teenage suicide which “*always comes to mind*” (WH) and a lack of mental health services. One participant provided a clear example of these concerns.

...because I knew a girl. She was at [school]. She was pregnant. She couldn't tell her family so she hung herself... She took her life and her baby's. So that was pretty pathetic.... Because there was no help for her. (NP)

This lack of help for young people's mental health was raised by two participants. One referring to a need for strong family support, rather than an ambulance at the bottom of a cliff and the other blatantly stating;

I have very little faith in like public mental health services. (HB)

4.5.1.3 Teenage sexual activity and consent

Teenage sex and consent was mentioned by a number of the participants. However, at the same time none of the participants felt their young people were engaged in sexual activity, despite different participants referring, either directly or indirectly to; their own sexual behaviour as teenagers, the young age at which teenagers were becoming sexually active, and the fact that their child's friends were "all doing it" (WH). The concern was mainly around defining consent, and also an understanding of the age of consent. One participant described how she found out at a parent's evening the average age for first sexual activity.

I had no idea that that was the average age, it is 15. I was just so shocked by that. I did say to the boys, "Oh my gosh," quite shocked, and, "Watch out for these horny girls. If it's a girl you don't know, you really hope they're not going to be out there doing it, but for God's sake make sure they're over 16 because you'll be in so much trouble. So much trouble. (WH)

Whereas another participant wanted to ensure her son was aware that sex;

...is actually better if both people really want to do it, not just if someone's saying, "yes okay, we can do it". That sex is better if both people are enjoying it, actually makes for better sex, rather than just-- oh, that's what it was, it was telling boys that boys need to understand that sex wasn't just something that you did to a girl. It was something that you did together. (HB)

Pregnancy was also a concern, with one participant commenting that her father had made a remark that he hoped one of his granddaughters had better be on the pill.

4.5.1.4 *The presence and impact of social media*

The presence of social media on young people also came up throughout the interviews. Three of the participants referred to their children as having had, or forming relationships on-line. One teenage boy met his girlfriend on Facebook, another had a relationship that was maintained on-line through messaging, and the other was seen to have replaced real friends with on-line ones via PlayStation gaming. The reasons for this were logistical, two of them were at different schools or lived in a different town than their girlfriend, and the other because on-line relationships were safer.

Oh, she's got heaps [boyfriends]. And she'd rather them stay online than see her because she was put down the first time. (NP)

In addition to facilitating relationships, social media can be seen as potentially harmful to young people due to FOMO (fear of missing out), the inclination to compare yourself to others, having private information shared inappropriately and the possible risk of predatory behaviour from adults.

Well, that's what paedophiles do, isn't it? They are continually on the lookout, doing things, so they sit there all day with computer systems. (WH)

These concerns appeared to be a lens through which the participants framed teenage relationships and therefore their approach to the Harmonised app.

4.5.2 *Girlfriend/boyfriend taitamariki relationships*

Only one of the participants was aware that they had a young person currently in a boyfriend or girlfriend relationship. Three of the participants were aware that young people had been in a relationship or gone on dates, and two indicated that their young people had not had such relationship. The sexuality of the young people was mixed with two of the participants noting they had daughters who had come out to their

mothers as gay at approximately 14 or 15 years of age. The impact of a bad relations on the daughter of one participant and how it was dealt with is expressed below.

She had one boyfriend but she was really gutted... because he dumped her. Because he was an idiot anyway.....my son gave him a hiding. (NP)

NP's eldest son dealt with the situation by giving the boy "a hiding" as she felt there was no other support or options available. HB's 13-year-old son was the only one in a current relationship which was maintained on-line through chatting on Instagram.

...this is from intermediate and she's at a different school now, so they hardly ever actually see each other. It's kind of sad to some extent. (HB)

The other participants were either aware that their teenager had been on one date, or had teenage sons who had not shown an interest in dating girls. For two of the participants this was due to the boys being at boys only schools with less opportunity to interact with girls, and also heavy school and sport commitments which limited the free time to meet or date.

I guess, they just don't out that much because the boys have got so much schoolwork to do that it's not-- and with sports, there's really not a lot of time. (WH).

4.5.3 Communicating with taitamariki

Communication between the participants and their school-age teenagers was a central theme throughout the user experience co-inquiry. It was viewed as important by all participants in understanding what is occurring in their young person's life and ensuring;

They're not just sort of keeping it all in. (NP)

The amount and openness of communication between the participants and their teenage children varied, with a couple of sub-themes emerging. One was the belief, expressed by three of the participants, that they knew what was going on for the children, even in

the absence of direct communication. They felt that they just “knew” or could tell what was happening.

...and I mean, even when they were down in Wellington and had two nights alone in a hotel room [laughter]. Slightly concerning, but I know that nothing happened (WH)

How do you know? (Interviewer)

I think I could tell, couldn't I? I'd like to think I could tell (WH)

The degree of communication between participant and teenager varied from very open (as previously mentioned two participants had daughters who came out to them at age 14 or 15), whereas boys were generally referred to as less forthcoming with conversations about personal topics, including relationships.

As with most 13-year-old sons, does not talk about his relationships. And I've tried occasionally to say things to him and I get one of those non-communicative responses. (HB)

Another with a son, still at school but who had just turned 18, reported a similar situation.

I think [he] sometimes struggles to-- I say he struggles to-- conversations don't come, sometimes, that easy with him. He can be quite introverted. He really can be. And sometimes I'll have a conversation with him and I'll think, "It didn't need to be that difficult. Just come and ask me. It's no big deal". (WH)

The participants all mentioned the idea of starting or trying to start a conversation with their kids in a way they felt appropriate. Asking after school how the day was or waiting for them to raise an issue. For example, coming home from school “shitty” and then following up with:

What's wrong with you this time? (NP).

The communication with the young people was seen to be best done face-to-face by three of the participants, noting that talking directly to someone was preferable over on-line communication to ensure the “message sent” is the “message received” (LH).

However, at the same time, there was value in being able to communicate over the internet as it provided a safe option.

4.5.4 User background and experience

In addition to the degree of communication, the background and experience of the participants provided them with a comparison from which to assess their young person's relationships as a teenager. This included how and why they communicate with them the way they do, and the degree to which they think it is appropriate or not to have sexual or intimate relationships while in school age teenage years.

He's a lot better than I was at his age 16 and never been kissed... I was kissing a lot of boys at his age" (LH)

Another participant presented a similar comparison between herself as a teenager and her teenage daughter:

Because, of course, she reminds me of myself. And I have this, "Don't do this, don't do that." And I think it just makes her do what I just said don't do. And I kind of remember that's what I did to my mum, so it was kind of like, "Don't do this" and I did all the things she said don't do." (TD)

On the other hand, another participant reflected that she was not allowed to have boys sleep over when she was a teenager, which was what she felt was also appropriate for her own child.

I never would have been allowed to have anyone stay over even when I was like 21. (WH)

4.5.5 Māori cultural perspective

Co-researcher, Te Wai Babarich, reviewed the scripts of the two Māori participants she co-interviewed and found a sub-theme founded in the kaupapa Māori method. This is titiro (look), whakarongo (listen), korero (speak). Te Wai found that both TD and NP described their relationships with their taitamariki as one of look, listen and speak when approaching how to communicate with them. For example, NP

described seeing what mood her daughter was in on return to school, “*shitty*” ask her “*What’s up?*” to hopefully engage in an effective conversation.

In addition, support from whānau was mentioned by two of the Māori participants who referred to their mothers as having played, or playing a role in raising their children and the support this provided. TD’s eldest boy, a 14-year-old lives with her mother (his grandmother) in a different town while she has two younger children living with her. NP referred to the support she had received from her children’s grandmother when she was alive as a safety net for her taitamariki.

“Grandmothers. That’s when their grandma was around. And yeah. Just flipped them off to their grandmother or their father”. (NP)

4.5.6 Support with young people

The participants were aware of different resources to support them with their young people and their relationships. In addition to the whānau support outlined above, mothers referred to parents’ evenings at school, google, knowledge of organisations such as Youthline (mentioned by three participants) and also older children which was mentioned by two.

Yeah, but my daughter has actually spent a lot of time educating me about gay issues and what it’s like as a young person in relationships, so that’s more interesting. (HB)

Online. Just reading stuff about bullying. (NP)

4.6 Theme summary

The three organising semantic themes encapsulated the usefulness of the app for the participants, its usability and also the context of the user. Through a deep engagement with the data a latent model was developed.

4.7 Latent thematic model

A latent thematic model emerged following further analysis of the data. A latent analysis is one that goes further than the explicit data to explore the underlying assumptions, patterns and concepts that shape the semantic themes. The data is not only described but subject to theorising (Braun & Clarke, 2006). Following continuous engagement and immersion with the data whilst identifying and naming the descriptive semantic themes, a series of connections emerged at an interpretive level which drew together a framework for the usefulness of the Harmonised app for whānau and family. This thematic model links together many of the key semantic themes of user context and usability with the usefulness of the app. In so doing, it presents a tentative framework for the further development of user experience co-inquiry as presented and discussed below.

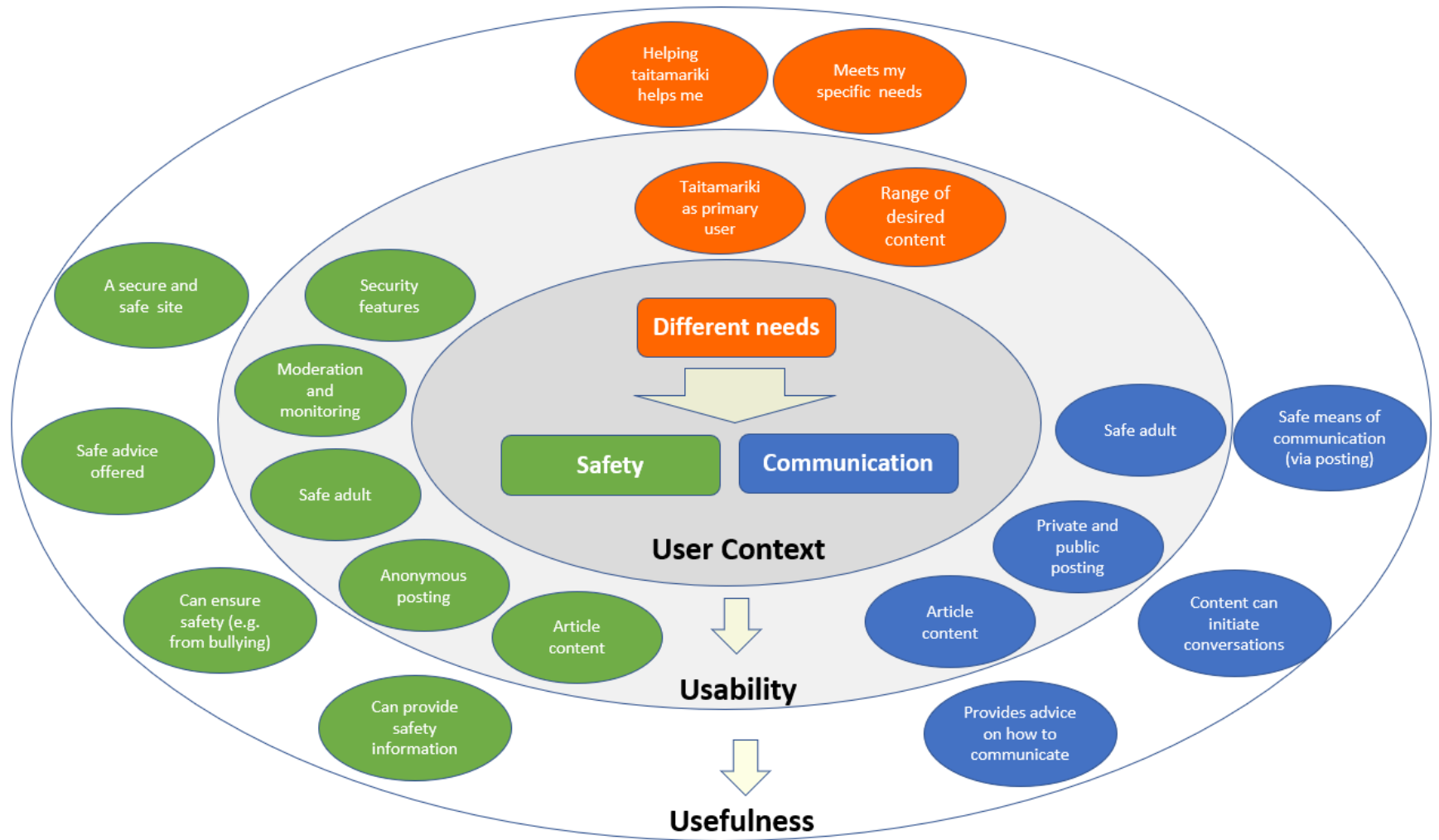


Figure 3. Usefulness model

The above model provides a theoretical framework of the data that can be reviewed in light of the Harmonised app but also as a developing model of usefulness testing for mHealth and eHealth interventions. The model illustrates how the context for the user influenced the way in which the usability of the app was viewed. It is somewhat of a deductive process, whereby the app was viewed in light of whānau predetermined concerns and the usability features were described in light of these. For example, the users appeared to be most concerned with safety and communication issues when discussing taitamariki and relationships issues. Therefore, participants appeared predisposed to view the usability of the app in terms of how it could keep their child safe, or ensure safety, and facilitate communication. The ability of the app, through its various usability features such as functionality and content, to address these concerns or needs, determined the usefulness of Harmonised for whānau.

The user context in the above model consists of two key themes or user needs; safety and communications with young people. Underlying this are the different and unique needs, driven by the background demographics, family circumstance and other support structures as part of the user context. The two overriding concerns with and need for safety and communication are interrelated. For example, communication, for and with young people, is needed to ensure safety through disclosure, and the receipt of sensible and appropriate advice in return. Safety allows for open communication, and good communication keeps taitamariki safe. The different needs of the user are influenced and in turn influence the perceived safety and communication needs and the degree to which taitamariki can be directly helped as a primary user of the app.

As noted, the user context, what they bring to an eHealth or mHealth intervention influences its perceived usefulness. For example, the concern around safety provides a lens through which the usability of the app is evaluated. The

interpretation is that Harmonised can be useful if it can ensure the safety of young people through the ability to share thoughts anonymously, learn from content about issues such as sexual consent, and have access to a safe adult to provide advice. At the same time, it must be seen as a safe place for young people though technical security features (e.g. pin numbers) and moderation or monitoring.

Users approaching the app also appear to have communication at the top of mind and therefore, the usefulness of the app is influenced by how it can assist whānau and young people to communicate. This can be achieved through using articles or posts to initiate a conversation, providing tips on how to approach a topic or as a safe means of reaching out to someone. The goal of communication is supported by the features of Harmonised that provide anonymous posting either publicly or privately, the provision of safe adults to offer advice and support, and articles that can be used as either a starting point for, or as a guide to a conversation.

The different needs of the users also drive the usefulness of the app. The way in which the app was viewed and may be used will vary depending on needs at the time and it may not meet everyone needs. For some, the app will not meet their needs for safe communication with young people as the needs are greater than that which can be solved with an mHealth intervention. Others may be interested in only specific issues, such as educating young males about sexual consent. The usability of Harmonised informs this through a range of content and features. Finally, the ability of the app to directly support taitamariki as primary users is useful to the whānau as they felt that what helps their young people is useful to them.

The model is a starting point for exploring the usefulness and user experience of eHealth and mHealth psychosocial interventions. It posits that the user context, notably overriding concerns or issues, colour the way in which the usability and functionality of

the app will be viewed. Accordingly, the usefulness of the intervention and the users' experiences of it are determined by how the usability of the app addresses the users' contextual issues.

4.8 Summary

The semantic and latent themes that emerged during the process of data familiarity, code generation and theme development are centred around the context of the user and the features of the Harmonised app itself. It must also be noted that a theme around healthy relationships did not emerge from the data as broader issues of safety and communication were more salient. The latent model provides a framework for further development of the user experience co-inquiry protocol to assess the usefulness of mHealth and eHealth interventions. The themes and their implications in light of the current literature, Harmonised development, usefulness testing and further research, along with limitations are discussed in the next chapter.

5.0 Discussion

The aim of this research was to explore the usefulness of the Harmonised app for whānau. Harmonised is a Māori centred mHealth intervention, co-developed with taitamariki to promote healthy relationships among 13 to 17-year-olds. Whānau can be invited by taitamariki to join the app as a safe person. The young person can communicate with and seek advice from their safe person if they choose to do so. In addition, whānau can view articles and resources on the app. To explore the usefulness for whānau, a new user experience co-inquiry protocol was applied and six mothers interviewed. This chapter discusses the key findings. It explores the main themes in reference to the current literature, and presents implications for the further development of the Harmonised app, counselling psychology, and the evaluation of user experience with mHealth and eHealth psychosocial interventions. The chapter concludes with a discussion on the methodological limitations, suggestions for further research and significance of the study.

5.1 Key findings

The key findings concerned the usefulness of Harmonised for whānau, in supporting taitamariki to have healthy relationships

5.1.1 Usefulness for whānau

Overall, Harmonised was welcomed by all participants as a potential or additional source of support in raising adolescents and helping them have healthy and respectful relationships. The fact that it was seen as helpful is encouraging, especially as early usefulness testing of Harmonised by its developers at MEA found that none of the five taitamariki primary users believed that their parents would use the app (MEA, 2017). This finding was not borne out in the whānau user experience interviews, as all

the mothers expressed an interest in engaging with Harmonised to some extent. This is promising as “strategies for whānau violence prevention that target whānau members with awareness raising, information and education will support strengthening whānau ability to be protective” and enable them to help and respond to taitamariki’s needs (Eruera, 2015, p. 5) .

It should be noted that the usefulness of Harmonised for whānau was viewed directly and indirectly. Directly useful refers to the help the app was seen to provide to mothers themselves as secondary users; the benefits and help they received when engaging with the app. Harmonised was seen as indirectly helpful when it helped the mothers through helping their children as the primary users of the app. For example, ensuring young people were able to open up about issues or access information to improve their relationships (potentially leading to increased wellbeing) was useful to the mothers, even if they were not actually engaging with the app personally as a safe person or whānau member.

One of the interesting findings from the research was the cultural theme identified by co-interviewer, Te Wai Barbarich in exploring the usefulness of Harmonised. She posited a Kaupapa Māori model of interaction with the app and between whānau and taitamariki on relationship issues that followed a titiro (look), whakarongo (listen), then korero (speak) approach. This is the process through which the importance of understanding a situation by looking and listening before speaking (Pipi et al., 2004). This derived from how the mothers approached information on the app and their conversations with their taitamariki. This approach was also reflected in the interview as discussed further. The provision of accessible content and resources to enable whānau to have effective and cultural safe communication with taitamariki was valued.

The degree of usefulness for whānau was also reliant on their particular family circumstances, taitamariki relationships, own knowledge base and other support available. For example, some mothers suggested additional content that addressed their particular concerns. For example, helping teenagers with anger management, supporting teenagers talk with angry adults and also information regarding sexuality and consent to protect not only ‘vulnerable young girls’ but also teenage boys. One participant, who did not engage deeply with the app implied that the help she required to support her five children (two in the target age range for Harmonised) were beyond the scope of a single app. Her example of resolving her daughter’s bad relationship by having a family member ‘give him a hiding’ suggests there may be a need for more intensive support for some families where anger issues and violence are already in play. Harmonised as a preventative tool may have limited ability to change already enmeshed patterns of whānau violence.

The usefulness of the Harmonised app was not seen by the mothers as directly relating to the taitamariki relationships but in regards to contributing factors such as communication skills and overall safety delivered through content and functionality. The inclusion of a parent training or education component in interventions targeting improved adolescent behaviour is associated with increased success (Cox et al., 2016). If parental and whānau involvement is one of the strongest predictors in adolescent mental and emotional wellbeing (Steinberg, 2014), the indication that Harmonised was useful for whānau is a positive finding.

5.1.2 Communication

Mothers viewed Harmonised as a potential facilitator of communication for their taitamariki with peers and whānau through the content and posting functions. Mothers commented that Harmonised could be useful in initiating conversations with young

people through direct tips and hints such as “Talking with your children about dating and relationships” or using the content as a starting point for conversations. The focus on improved parental-adolescent interactions and communications is one of the most common elements in successful interventions designed to help adolescents with issues such as sexual health (Wight & Fullerton, 2013) which is closely related to intimate relationships. Using the app content as a focus point for a discussion was seen by the mothers as a way of opening up discussions especially for reticent adolescents.

In addition, the ability for young people to communicate directly to peers and whānau through public or private posting was viewed as a particularly useful feature of the Harmonised app. Mothers liked the fact that young people would have a way of disclosing information and seeking advice rather than keeping it all in. Research has shown that up to a third of adolescents would rather communicate on-line over intimate topics such as sex and relationships (Schouten et al., 2007). Anonymous on-line posting protects them when exploring and sharing developmentally sensitive and potential embarrassing topics as they can take time to review what they are saying and not be identified (Valkenburg & Peter, 2011). Therefore, if adolescents like to communicate on line and, whānau support is, in most cases desired (Eruera, 2015) and helpful (Cox et al., 2016; Mumford et al., 2016) it makes sense to bring these together in an app. The mothers appeared aware of this, particularly for “incommunicative” boys, as the provision of a safe channel of communication to whānau was viewed positively. This was the case even if they (the participants) were not selected as the safe person.

However, the benefits of the posting functionality were compromised by the concern that relying only on peer groups for advice, rather than adults could be potentially harmful. These concerns were not unfounded as some research has found

that young people that place more value in the opinion of friends than parents for serious issues may be more likely to have compromised emotional wellbeing (Ackard et al., 2006). Thus, the issue of communication was closely tied to ideas around the safety of the app for whānau.

5.1.3 Safety

The whānau view of Harmonised's usefulness was intricately linked to issues of emotional safety. The fact that mothers expressed safety concerns reflect the needs of taitamariki for whānau support with relationships that offer "safety and protection" (Eruera, 2015). Although the app was seen as increasing safety if taitamariki went to a safe person for advice, mothers still had concerns, not about their own safety and security on the site but that of their children. The concerns the mothers expressed were not with regards to the safety of taitamariki in relationships, but to safety in cyber space. They expressed the desire to keep their children safe from cyber-bullying, which can lead to mental health issues, including teenage suicide, and also protection from paedophiles accessing children on-line. These fears may not be groundless as school-age teenagers are still "developing a mature conception of trust as a process whereby disclosure is gradual" and therefore, they may indiscriminately disclose inappropriate information that increases the risk of bullying (Mesch, 2009, p. 391). Even with anonymous posting, negative feedback on a post may either discourage further disclosure or lead to symptoms of stress and depression (DeHue et al., 2008).

Another fear put forward by the mothers was that without moderation or monitoring, taitamariki would not be protected from unsafe or inappropriate comments or advice, and those in immediate need of help may not receive it. This is relevant particularly if a safe person has not been invited to view or comment on

posts. Previous research into a peer-to-peer support site for adolescents found that adult moderators answered 10% of the questions concerning health and relationships (Suzuki & Calzo, 2004) suggesting there is a need for experienced adult advice at times. Finally, mothers expressed a desire to ensure emotional safety for taitamariki when using Harmonised. This was in terms of taitamariki determining who was able to view information and, the ability to un-invite safe people or delete posts. A further desired safety measure was the provision of moderation to ensure appropriate comments and advice and provide immediate support if required. These safety issues have implications for Harmonised which are discussed next.

5.2 Implications for Harmonised

The research findings have important implications for the use of Harmonised by whānau, and future releases or developments in the app. First, and encouraging is that Harmonised was viewed as a positive intervention and resource for whānau, and by whānau, for taitamariki. Although taitamariki in earlier usefulness testing did not think their whānau would use Harmonised (MEA, 2017), the current research suggests otherwise. Second is the importance of keeping safety for taitamariki top of mind in future releases and developments. As discussed, whānau expressed a number of concerns around the emotional safety and technical security for taitamariki using the app. These concerns could be mitigated by providing whānau with information and assurances about the safety and operation of Harmonised when they are first invited by taitamariki to sign on. This may help ensure whānau are supportive of young people using the app and are willing to engage with them if invited to do so. Furthermore, the findings suggest that assurances could include information on monitoring or moderation of the site, protection from strangers as well as maintaining technical sign-in (password and pin) security.

Third, the research suggests that ensuring Harmonised maintains a focus on enhancing communications between whānau and taitamariki will increase its value proposition to whānau. This could be achieved through continuing to post content and articles with advice on how to talk to young people, and also for young people on how to talk with adults. It could also be achieved by simplifying the posts for whānau to understand and making it easier to comment if invited to do so. One of the challenges, if older whānau or parents are invited to join, is the technical skill and knowledge gap between generations which contributes to a disconnect in how they participate in cyber space together (O'Keeffe & Clarke-Pearson, 2011; Yardi & Bruckman, 2011). Bridging this gap may facilitate increased participation between taitamariki and whānau. For example, a “*How to read a post*” article could make it clearer to whānau what the various elements of a post are (including open/resolved, values and severity rating) and making the commenting function a simple one touch, then type, could also help.

Finally, a number of functional recommendations were made by whānau, including addition to content, changed navigability (e.g. return to the last page rather than the beginning), ability to share content, and an easier sign-up process. These and other suggestions are contained in Appendix 7. The suggestions will be considered by the Harmonised project team for future releases.

5.3 Implications for usefulness testing: user experience co-inquiry

5.3.1 A new approach to user experience

The current study applied a new method of user experience co-inquiry to explore the usefulness of an eHealth and mHealth intervention. This innovative approach has helped address the gap for a method that bridges the disciplines of computer science and psychology to assess the user context and usability of psychosocial on-line interventions (Feather et al., 2016; Howson, 2014; Zapata et al., 2015). User experience co-inquiry

has stepped away from app focused usability testing, and also from the situated co-inquiry method (Carter, 2007) by simplifying it. There is no need for mirroring or screen capture software, a logger or in situ analysis. Rather, the focus is on a collaboration between a clinician facilitator/s and the user as the intervention is explored. Thus, the approach is centred on the context of the user, their circumstances and situation, and their unique needs in relation to the intervention under examination. Therefore, the user experience inquiry as opposed to usability testing is very much person centred and takes account of the individual's experience with the intervention.

The analysis of the co-inquiry occurred after the interviews. Through this process of content and thematic analysis, a proposed model for the usefulness of an eHealth or mHealth intervention originated. The model proposed that the usefulness of the intervention must first be addressed from the context of the user, their concerns and their needs. This is the lens with which they will assess the usability of the app, including design, functionality and content. The usefulness for the user and thus their likely engagement with the app is determined by how the usability is viewed in light of their context, concerns and needs. The whānau concerns for the safety of Harmonised taitamariki users provides an example of this.

The results implied that safety may be an important consideration in the usefulness of eHealth and mHealth interventions. This could be particularly salient with Harmonised as an intervention developed for young people, because of the inclination among parents to consider safety when their children are engaged in on-line activities (O'Keeffe & Clarke-Pearson, 2011) However, safety may extend beyond child or adolescent focused apps to other psychosocial interventions. There are very few existing models of usability testing for mHealth or eHealth interventions (Zapata et al., 2015) and it does not appear that user experiences of safety is a key feature. For

example, the MARS framework (Stoyanov et al., 2015) with which users rate the perceived quality of an mHealth intervention does not include safety and/or security as one of its criteria. Instead it looks at categories of engagement, functionality, aesthetics, information and subjective quality (likely use, frequency and overall). All of these categories were raised at some point by the mothers in the study. However, if I had used MARS as the framework during the research, safety, one of the key issues determining Harmonised's usefulness would have potentially been overlooked. Therefore, a qualitative user centred approach may offer more value in the development and evaluation of eHealth and mHealth interventions.

5.3.2 User experience co-inquiry with Māori

The exploration into the usefulness of Harmonised for whānau has implications with regards to usability testing and evaluation for Māori. It is important that user experience co-inquiry fits within a Māori world view given that Māori are over-represented in mental health statistics in New Zealand (Ministry of Health, 2015). In addition to ensuring cultural safety and following a Te Ara Tika research process, it would be appropriate to consider Māori frameworks such as Mauri Ora in the way in which user experience co-inquiry is carried out. For example, how does a think aloud protocol work within a titiro, whakarongo and korero approach to research (Pipi et al., 2004). This process of look, listen and speak may run counter to a process of simultaneous engagement with the app and speaking which is central to the think aloud protocol. As noted, the Māori participants spent a little less time engaging with the app and more time discussing and understanding their own circumstances before the korero or think aloud part of the process. This also applies to the interviewer whereby the initial phase of looking and listening was important to establish the relationships before engaging with the app. The role of welcoming the other and establishing the rapport

between the interviewer and user may be of even greater import when conducting user experience co-inquiry with Māori and should be explored further to reinforce the principles of participation, protection and partnership.

5.3.3 Clinician led user experience co- inquiry

Furthermore, the process of engaging with the mothers illustrated the importance of clinician led sessions focusing on the client or user rather than the application, when determining usefulness and usability. This is especially relevant when the issues under study may be deemed too complex to be addressed by the intervention. User experience co-inquiry, focussed on the user context and concerns and broader issues of communication and safety, illustrate the need for clinical as opposed to computer design or usability experts facilitating the process as in traditional think aloud approaches (Jaspers, 2009). Furthermore, some of the richest feedback on the user experience and context was gathered in the final minutes of the interviews, for example NP sharing the story of a local teenager's suicide and the potential for Harmonised to prevent such events, or LH sharing a story of her son's communication that she alluded to at the start of the interview but did not share until the final minutes. The building of rapport, so central to counselling psychology (Rogers, 1967; Thorpe, 2013) is clearly evident in gaining rich and informative data from the users. Through clinician facilitated qualitative inquiry, the underlying themes of safety and communication were elicited. Had the usability of Harmonised followed a traditional model of performing a series of tasks, some of which are pre-determined while talking aloud, key drivers of usefulness could be missed. Without clinical skill in building rapport and engaging with the client (Hill, 2009), important information as to the apps underlying usefulness may not be captured. A clinician focused method is one of implications for the practice of

counselling psychology, with the burgeoning delivery of psychosocial services and interventions over the internet.

5.4 Implications for counselling psychology

The research has some implications for counselling psychology. Firstly, it reinforces the congruence between the research process and competency development in trainee psychologists. Secondly, it has implications for the role of counselling psychologists in the evaluation of mHealth and eHealth interventions. Thirdly, ethical and cultural implications are discussed and finally, the link between the current study and family systems theory is reviewed.

5.4.1 Counselling psychology training

This research study was completed as part of the requirements for post-graduate training in counselling psychology. As noted by Thorpe (2013) the research process from start to finish augmented my skills and development in counselling psychology. Counselling psychology is humanistic, acknowledging and respecting individual perspectives, it is strengths based and has a goal of improving wellbeing, alleviating distress at a personal and interpersonal level (Farrell, 2013). This research process was focused on the individual perspective of a strengths based intervention aimed at improving relationship health for young people. The interviews were user or participant lead with the interviewer seeking clarification and further information as needed, similar to the exploration phase of counselling (Hill, 2009). Thus, it reflected some of the main criteria for counselling psychology. Furthermore, the findings reflect the value in taking an individual humanistic approach to on-line intervention evaluation. Latent thematic analysis uncovered the underlying concerns of safety and need for communication in supporting taitamariki to have healthy relationships. Had the

research been purely focused on the usability of the mHealth intervention, these issues may not have been identified.

5.4.2 Evaluation of eHealth and mHealth

A further implication for counselling psychology is the benefit of having clinician involved in the in-situ evaluation of eHealth and mHealth usefulness. This delivers potentially more contextual information to help clients and inform further app developments. With the burgeoning of eHealth and mHealth interventions, including etherapy, there is a need for clinicians to be able to determine the potential barriers and enablers of use, and reactions of clients. Counselling psychology will benefit from standards in training and competencies that incorporate best practice guidelines on the user-lead evaluation of eHealth and mHealth interventions (McCord et al., 2015). Trialling the user experience co-inquiry method continues to build on this gap in the literature (Howson, 2014) for counselling psychologists.

5.4.3 Cultural and ethical implications

Harmonised as a Māori centred application required a Māori centred and culturally safe research approach. This not only aligned with the ethical requirements of the research to adhere to the guidelines of Te Ara Tika but also aligned with the Code of Ethics for Psychologists working in Aotearoa/New Zealand (2012). Thus, it was important to ensure that the user experience co-inquiry encompassed Te Tiriri o Waitangi principles of partnership, protection and participation as outlined in section 1.3 ‘Relations between Māori and Non-Māori’. This project reflects this in both the Harmonised app itself, co-developed in partnership with Māori with a preventative and protective focus, and also in the research process. Three of the participants who engaged in the user lead usability process were Māori. Te Wai Barbarich, a Māori researcher, co-facilitated in interviews to ensure cultural safety and protection for all

involved, and also reviewed and interpreted the transcripts from a culturally appropriate perspective, contributing to the semantic themes.

5.4.4 Family systems theory in counselling psychology

The way in which whānau view the usefulness of Harmonised for taitamariki has implications in light of a family systems theory of counselling psychology. Systems theory posits that individuals are part of the wider family unit and that issues occurring in the family are therefore interpersonal, rather than personal (Dallos & Draper, 2010). The importance of whānau as a cornerstone of the Mauri Ora framework encouraged this perspective within the research and analysis. Furthermore, whānau and family violence, which was the starting point for the development of Harmonised, must be examined in light of a systems approach and patterns of circular causality in order to bring about effective change. The mothers viewed the usefulness of Harmonised in terms of its usefulness to their taitamariki, supporting the notion of interconnectedness within the whānau and family system.

The usefulness and even the usability of the intervention was seen through their eyes in terms of how it could keep their children safe and facilitate whānau wide communications. Thus, it appeared that Māori, and non-Māori, instinctively viewed the app within the context of a family and whānau system, instead of an app designed for the mother or other whānau member in isolation. This is congruent with the interdependencies in a family relationship whereby an intervention supporting all members of the family, rather than an individual, may have a greater impact (Falloon & Lillie, 2015). The interviews may have reinforced for whānau Eruera's point that;

...it is imperative that whānau are aware of the influence they have and are supported with strategies to respond appropriately increasing the potential of a healthy partner relationship for taitamariki within their whānau network and intergenerational wellbeing. (2015, p. 5)

In the app's trial and dissemination, the act of invitation to whānau by taitamariki is likely to reinforce this. Counselling psychologists must keep in mind the family systems approach when developing, evaluating or suggesting interventions designed for adolescents that have a whānau component.

5.5 Methodological limitations

A number of caveats should be noted regarding the study design and process. First is the homogeneity and small size of the sample, which was limited to mothers within the family and whānau group. Although purposive sampling does not aim for statistical representation it does aim to capture relevant criteria in order to fully explore the research question (Ritchie & Lewis, 2003). By only interviewing mothers, rather than fathers or other family members, (such as aunties, grandparents, uncle) the usefulness of the intervention should be cautiously applied to whānau overall. For example, the key themes of safety and communication that emerged for the participants of this study may not be the same for fathers. Overseas research has shown that adolescents are less likely to talk with fathers on serious issues (Ackard et al., 2006), and therefore fathers may have different views than mothers on communication or potentially less clarity around issues of concern for their young people. It would be interesting, and beneficial to explore if this was the case of New Zealand Māori adolescents. Moreover, women are more likely to be heading single parent families (Statistics New Zealand, 2013), and therefore the usefulness of the app may be viewed differently by whānau, with whom the young person does not reside.

Related to the sampling for the study was the fact that only one of the participants was aware that they had a child in a boyfriend or girlfriend relationship at the time of the interviews. This relationship was described as an on-line relationship, and one participant had a teenager at the time, who had been in an unhealthy

relationship in the past. Therefore, the view of the participants to the usefulness of Harmonised with taitamariki relationships may have been somewhat hypothetical. This is emphasised by the notable focus of the parents on the needs and safety of taitamariki in general, rather than their specific children. The feedback on Harmonised usefulness and recommendations for further developments could well be different for parents of children in intimate non-cyber based relationships.

A further limitation in the research was the stage of Harmonised app development at the time of the study. The intervention had only six articles and a small number of example posts on the site, therefore the ability to engage with content was restricted (although it did allow for suggestions for desired content). The app had not undergone “localisation” which was the process it has subsequently undergone to translate it into Te Reo and the posts were appearing with usernames rather than anonymously as they will be in the new release. Compounding this was the fact that the participants accessed Harmonised on the interviewer’s phone rather than their own device. The perception of the ease of use and navigability of the app may have been impacted by this with participants finding it difficult to re-enter the site for example once it had timed out.

The methodological approach to the study was qualitative descriptive and therefore the limitations inherent in qualitative research apply. Although personal reflexivity and elements of rigour were applied throughout the research study, researcher biases and assumptions will have influenced the process from design to reporting (Darawsheh, 2014). For example, the participants were mothers of at least one school age teenager and I had to be careful in interpreting the findings to stay close to the data rather than impose my experiences as a mother into the analysis. It also influenced the sample make up, as it was easier to recruit mothers than fathers using the

researchers social and work networks. The rigour of the analytical process was checked against the criteria put forward by Braun and Clarke (2006) presented in the method chapter. Overall it met most of the criteria outlined although the rigour and quality could have been increased by having an additional coder check the data. This would have ensured it was not anecdotal with themes developed on vivid examples or quotes influencing the process but on a rigorous coding process. However, having two people code the full data set was not possible due to time and resource constraints.

5.6 Recommendations for future research

The research highlights areas where future research on the Harmonised app, the role of whānau in supporting healthy relationships, communication between whānau and taitamariki and the continued development of the user experience co-inquiry protocol into eHealth and mHealth psychosocial interventions could be beneficial. First, and already planned is further usability testing and usefulness inquiry into the Harmonised app. This will be with male whānau members, including fathers to understand their needs, enablers and barriers for using the app to support young people. This will continue to improve the usefulness in future releases of the app and to augment the step wedged trial starting in 2018.

Second, is the possibility of further research into the role of whānau in supporting taitamariki to have healthy relationships. The app was co-developed with taitamariki to ensure it was Māori centred and providing young people what they felt would be helpful. Although there are issues with violence within whānau and the right people should be safe, ensuring support across whānau not just invited whānau could help. It may be helpful to step back from Harmonised and ask whānau what they feel they need and want to support their young people. For example, even if you are not selected as a “safe person” what other resources and support are needed to help. Asking

whānau more broadly what they think is missing may help provide services in addition to Harmonised.

Third, although there is a large body of research into teenage social media use and parental monitoring of it, there appears to be a paucity of research into how social media, particularly those with an eHealth or mHealth focus, are used as a communication tool between parents and adolescents. If adolescents are more comfortable sharing information and seeking support on line (Schouten et al., 2007), and if whānau support is, in most cases desired (Eruera, 2015) and helpful (Cox et al., 2016; Mumford et al., 2016) further research should be done on the development of interventions that bring whānau and taitamariki together in an on-line space.

Finally, the user experience co-inquiry method requires more examination. The possible model of usefulness linking the user's context with the usability of an app could be trialled on other interventions and lead to a potential clinical formulation model. Such a model could aid clinicians when making decisions to recommend eHealth and mHealth interventions to clients. It would be interesting to also assess the concerns around emotional safety in future research on eHealth and mHealth intervention usefulness evaluations.

5.7 Conclusion and significance

The current research provided significant insights into the usefulness of Harmonised for whānau. They see it is a positive resource to help them help their taitamariki to have healthy relationships. It raised the two key issues of safety and communication which are relevant to healthy relationships and parenting, and identified some of the gaps for whānau in providing support. The research, in testing a new approach of user experience co-inquiry, addressed the gap in clinician facilitated evaluation of eHealth and mHealth interventions for health promotion and wellbeing.

The current study put forward a potential model that could be used to review the usefulness of such interventions, but putting the focus on the user and not on the technology. It noted that it is the context for the user that is likely to determine the usefulness of the app and its usability for them. It also highlighted the need for clinician involvement to fully understand and draw out the user context and experience. This will help clinicians with the continued development of interventions that promote wellbeing.

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Appendices

Appendix 1: Ethics approval



AUTEC Secretariat
Auckland University of Technology
D-B8, WU800 Level 4 WU Building City Campus
T: +64 9 921 9229 ext. 8836
E: ethics@aut.ac.nz
www.aut.ac.nz/researchethics

10 June 2017

Jane ~~Kerr~~ McLain
Faculty of Health and Environmental Sciences

Dear Jane

Re: Ethics Application: **16/14 Korero ~~mai~~ exploring young people's intimate partner relationships, priorities and decision making.**

Full project title: Violence prevention: promotion of healthy relationships amongst high school students using a smartphone App.

Thank you for your request for approval of amendments to your ethics application.

I have approved minor amendments to your ethics application allowing:

1. Changes to the recruitment protocol – recruitment through fliers, ~~contacts~~ and social media;
2. Additional personal to the research team for whānau and family interviews;
3. Changes to the Information Sheet and Consent Form.

I remind you of the Standard Conditions of Approval.

1. A progress report is due annually on the anniversary of the approval date, using form EA2, which is available online through <http://www.aut.ac.nz/researchethics>.
2. A final report is due at the expiration of the approval period, or, upon completion of project, using form EA3, which is available online through <http://www.aut.ac.nz/researchethics>.
3. Any amendments to the project must be approved by AUTEC prior to being implemented. Amendments can be requested using the EA2 form: <http://www.aut.ac.nz/researchethics>.
4. Any serious or unexpected adverse events must be reported to AUTEC Secretariat as a matter of priority.
5. Any unforeseen events that might affect continued ethical acceptability of the project should also be reported to the AUTEC Secretariat as a matter of priority.

Non-Standard Conditions of Approval

1. The recruitment advertisement requires the AUT logo;
2. The Consent Form needs to have an option for accessing summary report

Please quote the application number and title on all future correspondence related to this project.

AUTEC grants ethical approval only. If you require management approval for access for your research from another institution or organisation then you are responsible for obtaining it. If the research is undertaken outside New Zealand, you need to meet all locality legal and ethical obligations and requirements.

For any enquiries, please contact ethics@aut.ac.nz

Yours sincerely,



Kate O'Connor
Executive Manager
Auckland University of Technology Ethics Committee

Cc: Terry ~~Dobbs~~; Denise Wilson; Lucinda ~~Cherry~~; Jackie Feather; terry.dobbs@aut.ac.nz

Appendix 2: Information sheet



Whānau and Family Interview Information Sheet

How helpful is the Harmonised smartphone app for whānau and family to promote healthy relationships for their teenagers?

An invitation

We are inviting family and whānau of 13-17 year olds to help us explore helpfulness of a smartphone app in supporting their young people have healthy partner relationships. Thank you for showing an interest in the research. Please read this information sheet carefully before deciding to participate.

Background to the project

Auckland University of Technology (AUT), in conjunction with the University of Otago and Johns Hopkins University are embarking on a Ministry of Business, Innovation and Employment funded research project. In this project we are developing, testing and piloting an interactive, tailored app called Harmonised for young people (aged 13-17 years) to promote healthy intimate partner relationships. The app is being developed because partner violence among adolescents is an understudied area and until recently, intervention efforts (and research) have largely ignored young people. Recent research has found that young people don't always know what to do or where to get help if they are experiencing abuse in a relationship, and that sometimes if they ask adults for help, they may not be taken seriously. We also know that adults may not know what to do or say either.

What is the purpose of the project?

The overall aim of the project is to reduce partner relationship violence in New Zealand. Promoting healthy relationships for young people has the potential to reduce relationship abuse, improve wellbeing and increase young people's confidence to seek help and safety. Current evidence would suggest that healthy relationships during adolescence will lead to improved wellbeing and healthy relationships in adulthood, support healthy parenting and break the cycle of violence.

A research team at AUT is co-developing with taitamariki (young people) a healthy relationship app called Harmonised. The aim is for the app to be integrated into the New Zealand secondary school curriculum, available to whānau, iwi and community and accessible nationwide as a health sector family violence prevention resource.

Why are you interviewing whānau and family?

Harmonised has been developed in collaboration with taitamariki because they are experts on their own relationships, what works for them and what doesn't and what they need to help them have healthy relationships. Taitamariki indicated that whānau and family support are important to their intimate partner relationships. Therefore, the Harmonised app includes information for friends and whānau on how to provide support to young people and also a private link to whānau they wish to receive specific advice or support from. To understand how useful the app is for whānau in

1

Information  Whānau Usability Testing (16 June 2017 v2). Approved by the Auckland University of Technology Ethics Committee on 19 June 2017, AUTEC Reference number 16/14.



supporting their young people, we are inviting whānau participate in an interview while they use the app. Representatives can be anyone identified as whānau or family such as mothers, fathers, siblings, aunts, uncles and / or grandparents.

What will I be asked to do?

The interview will focus on an exploration of the Harmonised app. This will involve:

- Talking with the interviewer about your young people and their relationships, and what you might need to help them have healthy relationships.
- Working your way through the Harmonised app
- Talking to the interviewer about your thoughts as you use the app, discussing what works and does not work and any other things that come to mind.
- Talking to the interviewer about your goals and experiences in using the app.
- What are the possible barriers to using the app and what are things most useful in the app.

The interview will be audio recorded to ensure that comments are not missed. The recording, however, may be turned off at any time if requested.

At any time, you may ask to pause, stop or withdraw from the research. You do not need to give a reason to do so. The interviewer may also suggest you stop or withdraw if she identifies any harmful effects, or believes that participating is not in your best interest.

The interviews will take approximately one to two hours and the interviewers can talk with you at a location of your choice. A  koha, in the form of supermarket vouchers, will be offered to thank you for your participation.

How will my privacy be protected?

All information gathered from the interviews will be treated as confidential.

The interviews will be audio recorded and transcribed. The interviewers, research team and the person who types up the interview transcript will have access to the interview information. However, no material that could identify you will be used in any reports. We will use pseudonyms (made up names) when we write up the notes from the interviews. All materials from the interviews will be stored securely on computer and password protected. Any physical material will be kept in a locked cabinet at AUT accessible only to AUT research staff. After six years, all data will be destroyed through shredding and deletion.

However, we do need to advise that, should during the interview, the research team have concerns that there may be a safety issue for you, or your whānau or family, we have an ethical obligation to ensure, as far as possible, you and your family's safety. After discussions with you, we may engage with an appropriate agency to help make them safe. Should you need to discuss the research or any issue that arises from it, for yourselves or your family, please feel free to contact us.

How do I agree to participate in the research?

If you would like to participate in this research, please contact Moira Howson (mobile 021 707-392 or email moira@howson@gmail.com)

You will be asked to complete a written consent form that will be provided to you.



Will I receive feedback on the results of the interviews?

The results of the interviews will be published in academic journals and presented at conferences. You may indicate on the consent form if you would like to receive a summary of those publications. As noted above, no names of participants will appear in any publications.

Who is on the research team?

The research team is made up of:

Professor Jane Kozl McLain, School Health Care Practice, Centre for Interdisciplinary Trauma Research, Health & Environmental Sciences, AUT.

Dr Jacqueline [Jackie] Feather, School of Public Health & Psychosocial Studies, Centre for Interdisciplinary Trauma Research, Health & Environmental Sciences, AUT.

Moira Howson, ~~MSc~~ PGDip student in the School of Public Health and Psychosocial Studies, Health & Environmental Sciences, AUT and Research Officer, Centre for Interdisciplinary Trauma Research, AUT.

~~Wai Burroughs~~ Research Officer, Centre for Interdisciplinary Trauma Research, AUT.

What do I contact if I have concerns or questions about the research?



Any concerns or questions, please feel free to contact the following:

Researcher, Moira Howson, on mobile at 021 707-392 or email: moirajhowson@gmail.com

Research Supervisor, Dr Jackie Feather on 09 921 9999 ext. 7693 or email: jackie.feather@aut.ac.nz

Concerns regarding the conduct of the research should be notified to the Executive Secretary of AUTC, Kate O'Connor, 921 9999 ext. 603, email: ethics@aut.ac.nz.

Appendix 3: Consent form

Whānau and Family Interview Consent Form

How helpful is the Harmonised smartphone app for whānau and family to promote healthy relationships for their teenagers?

I/We have read the information sheet explaining this project and understand what it is about. All our questions have been answered to our satisfaction. I/We understand that we are free to request further information at any phase of this project.

I/We know that:

- My/Our participation in this project is entirely voluntary;
- I/We are free to withdraw from the project at any time without having to give a reason or disadvantaging ourselves;
- I/We understand that the research data of the whānau and family interview (audio-tapes and transcript) will be retained in secure storage, and will be destroyed and that all personal information (names and consent forms) will be destroyed at the end of the study;
- I/We give consent to the AUT researchers to notify an appropriate agency should they have concerns that there may be a safety issue for us or our whānau. We also understand that the researchers will speak to us prior to taking any action.
- I/We understand that only the researchers and the person who typed the transcripts will have access to personally identifying information from the interview.
- I/We understand that the results of the project may be published, but our names and the name of family will not be used in any report of the research.
- I/We understand that we have access to AUT researchers should we need to discuss this project with them or discuss any issues that may arise from this project for ourselves or our family.
- I/We understand that we will be able to access a summary report of the research once complete, by contacting the researchers on the information sheet.

I/We consent to take part in this interview.

Name: _____

Signature: _____

Date: _____

Whānau and Family Interview Consent Form – Whānau Usability Testing (16 June 2017 v2).
Approved by the Auckland University of Technology Ethics Committee on 16 June 2017, AUTEC.
Reference number 16/14. Page 1 of 1.

Appendix 4: User experience co-inquiry workshop agenda

Agenda for 13th July, 2017

eHealth User Experience Co-inquiry Training

Attended by Te Wai Barbarich, Jackie Feather, Michael Roguski, Moira Howson

9:00- 9:15am Introductions and outline of the session

9:15-10:15am Usability testing and user inquiry

- What is it
- Different types
- Situated co inquiry – what is was and how has it been used
- Principles of think aloud

10:15-11:15am Harmonised Aims for each

- Recruitment
- Consent process
- Location
- Set up
- Welcoming
- Instructions for the think aloud protocol

12:00-1:00pm User experience co-inquiry and think aloud protocol practice

Appendix 5: Interview guide

Harmonised User Experience Co-Inquiry Whanau & Family Interviews

The following script has been developed to guide the facilitator through the co-inquiry session and achieve a couple of core objectives. Each session will follow a standard format, and there will be koha for each participant.

Objectives

The objective of the interview is to evaluate the users psychosocial experience of the Harmonised intervention, or as a support/safe person user (whanau or family member of a 13 to 17-year-olds). The evaluation is focused on the actual experience of the user derived through:

- Functionality of the application
- The psychosocial context they bring to the interaction
- Helpfulness / usefulness of the intervention in meeting their needs
- Safety of the application / intervention

Interview format

Welcome

- Welcome
- Introductions

Consent

Clarify any issues around consent, give the participant an opportunity to read/reread the information sheet, and ask them to complete the consent form.

Would you like to read or reread the information sheet which explains the background of the project, the research and the interview process. Are you feeling okay with that? Do you have any questions? I'm going to ask you to sign something for us. It says that you give your permission to be involved today and for us to use your answers in our research. It also gives us permission to audio tape the session, but that it will only be heard by the people working on the project, and it outlines how you can withdraw or stop at any point without needing to explain.

Setting the scene

Provide the background for the interview.

Thank you for offering to join me today in exploring the Harmonised app. We've been talking with young people across the country and their whanau and families, to better understand their relationships and what issues they face on a day to day basis. From these conversations, a group at AUT, with funding from the Ministry of Business, Industry and Enterprise, have come up with an app that offers a safe social media forum for teenagers from 13-17 to get support from each other, [and if desired] their safe friends, whanau and family.

You can use the app to talk about relationships, get advice and read interesting articles on a variety of things to hopefully contribute to safe, happy, abuse-free relationships.

The app is in its development phase at the moment, and is about to be piloted in a small number of schools around New Zealand. As it is in the development phase you will be working with an "in progress" version of the app. However, this means that your feedback could influence the future development and rollout of the application.

This is also a really great time to be involved with the app because what you tell us could influence the design or future versions of the app.

Background context

Gather contextual information about the user as a whanau/ family member supporting a young person.

Start audio taping

Before we begin, it would be really helpful to find out a bit more about you and why you're here today.

- *I'm meeting with you as you have teenagers/taitamariki in your family? Tell me about them?*
 - *Probe: Who the young people are, the age, the relationship, if they live with them?*
- *Tell me about your [young person's] relationships?*
 - *Probe: Do they know about their relationships? How do you feel about their relationships?*
- *What relationship things do you talk about with them?*
 - *Probe: How often, what's the nature of the discussions (questions answered / advice given)?*

Introduction to "think aloud"

What I am going to ask you to do is use the app while you say what is going on for you, your thoughts, emotions, ideas as you work through it. I'll show a brief video to give you an idea.

Show [demo video](#)

There are no right or wrong answers, there is no right or wrong way of using the application. I'm not going to ask you to do specific tasks, just go through it as though you have logged in for the first time and what your thoughts are about it.

As mentioned, an option for young people is for them to select a safe family member who they can choose to view, and maybe comment on private posts. We will assume as you work your way through the intervention that you have been invited to join the application as a safe person for a young member of your family. Please feel free to let me know at any time if there's something you like, dislike, if you're confused, etc.

If at any point you have questions, please don't hesitate to ask. Do you have any questions so far?

Thank you.

Ok, let's give this a try.

Hand them the device with the app (from the initial launch screen) and when it comes to log-in – hand them the log-in information.

Notes for the “think aloud”

Provide audio tags for the recording as to what screen the user is on.

Prompt to elicit more in-depth information and can include:

- *What are you doing now?*
- *What just happened?*
- *What were you expecting to happen?*
- *What's happening?*
- *Somethings up, eh?*
- *You've paused?*
- *What are experiencing?*

Post “think aloud”

Follow up questions on the app.

Now you have had a chance to work your way through the application, I would like to ask you some questions about it to wrap up, some are focused on the functionality of the app itself and others about how helpful this could be for you

- *Follow up on any specific/points of interest during the “think aloud”?*
- *Overall, what are your thoughts on Harmonised?*
- *What are the things about the app that you like?*
 - *When and how would you use it?*
- *What are the things that you didn't like so much about the app?*
 - *What would improve the app for you?*
- *Is it helpful?*
 - *If so, in what way?*
 - *If not, what would make it a better fit for you?*

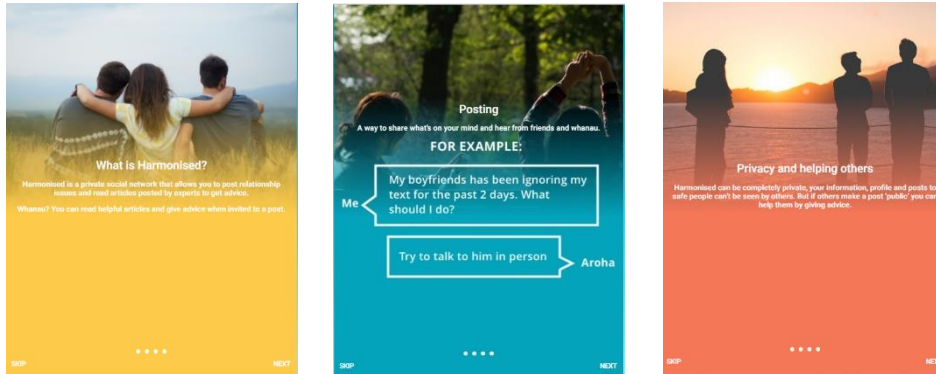
- *It has an option to use it even if you are not invited as a “safe” person – what are your thoughts on that?*
 - *Would you be invited in do you think, if not why not?*
- *What, if any, concerns do you have about the app and its use?*
- *What other places would you look to get information about young people’s relationships?*
 - *What could an app like we’ve described offer over these?*
 - *Why would they use an app like this rather than the alternatives?*
- *Beyond Harmonised, what other things would meet your needs in providing support for young people in their early relationships?*
- *What questions, if any, does this app raise for you?*

Close & thanks

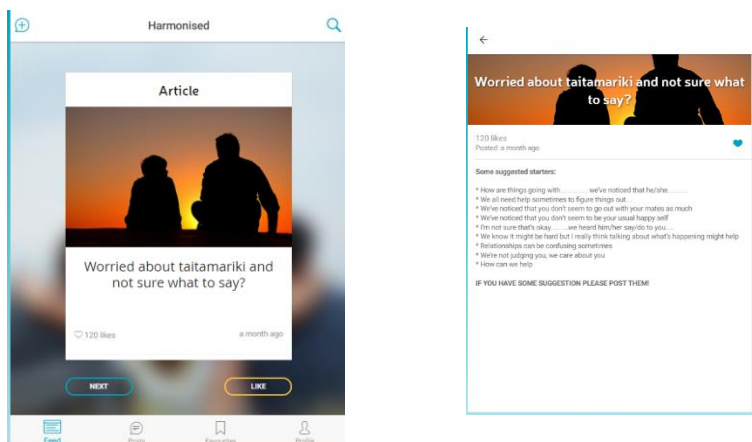
Ok, well we’re done. Do you have any other feedback or questions for us? Koha and thanks.
Ask about support required once they leave if needed, “is there someone you can talk with.

Appendix 6: Harmonised screen shots

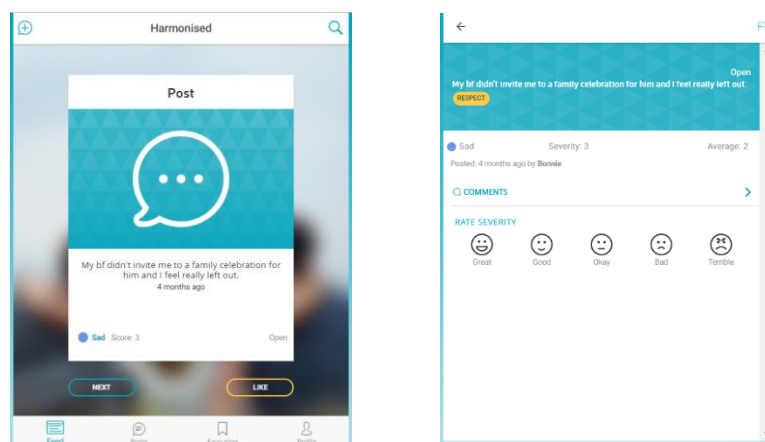
Introduction pages - example



Article pages – example



Post page - example



Appendix 7: Usability log

#	Key Issue	Details (What exactly is the problem)	Possible fixes for discussion	Screen shot suggestion	Priorities (H/M/L)
1	Anonymity of posts	How can a safe person know who the post is from if they have more than one key user	Public posts are anonymous and private posts have a user name appear		M
2	Flag button on posts	Flag not clear that it is how to report the post. Looks more like flag to return to later	Have a "report this post" in the corner in text		H
3	Posts are confusing for invited people (ie people who do not have the option of posting)	The information on the post page including: see below	Need explanation of "how to read a post" either a link on the post page or an article at the start, or an email to the invited person when they are asked to sign up.		H
4	Yellow value labels on post	People push them thinking it will take them somewhere either to; a definition of the word or other posts with the same label.	Either link to or bring up a little bubble with the definition, or take to a definition screen, make them look different so that people don't push them	Frame it : my relationship values this post is about Or if pushed a bubble or link comes up with an explanation along the lines of "This is a relationship value etc"	H
5	Severity ratings	Invited people not sure what ratings mean including the average.	Explanation on how to read posts (see above).		H
6	"Open"	People think this is where you push to "open" the post and see more information	Explanation on how to read posts above. Have resolved and open appearing but one highlighted to put the "open" in context		H
7	Returning to last page viewed	When on app and go out (e.g. answer a call, view a text message) when I go back to it, I enter the pin but get taken back to the first page and have to go and look for post I was in or article I was reading....	When you enter pin it takes you to the last page viewed e.g. the post or article you were on.		L
8	Making a comment is a two page process	Click on comment and come to "public" comment then click again to see the comments and not obvious at the bottom of the screen where to type a reply	Is this to separate public / private comments out then leave but make the "Make a reply" take up more of the screen or bigger?		H
9	Deleting a safe person	Users need ability to remove/delete safe people	Already done?		H

#	Key Issue	Details (What exactly is the problem)	Possible fixes for discussion	Screen shot suggestion	Priorities (H/M/L)
10	Phone numbers can be dialled up automatically	When numbers to call then if you touch it could come up with a "call this number"	It should have the option to call the number if you touch it		M
11	Ability to share articles	Sharing an article if you think someone else will benefit from it.	Add a symbol you push to then enter the email address on the bottom ribbon.		M
12	Option to not select a school	Increased anonymity	If this is feasible?		L
13	Use of word "terrible"	Connotations – word is too harsh?	Any other option?		L
14	Additional content	Content desired by whanau	Sexual consent, anger management for teenagers, how to talk to adults, friendships, bullying.		M

Appendix 8: Draft user experience co-inquiry manual