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Editor's Introduction

Volume 50, Issue 1, presents two papers – the first a series of empirical studies investigating how people may respond to admissions of wrongdoing, and the second a case study drawing from service provision data to understand usage of a mental health inpatient unit.

Secondly, we renew our call for papers to be considered as part of our upcoming special issue on psychological perspectives on environment, climate and sustainability.

CALL FOR PAPERS: Environment, climate and sustainability

We invite submissions for an upcoming special issue of the *New Zealand Journal of Psychology* focused on environment, climate, and sustainability.

We welcome contributions in the form of scholarly reviews, empirical research whether qualitative or quantitative in nature, commentaries relating to practice relevant to psychologists working Aotearoa New Zealand, and other relevant contributions. Contributions should be broadly relevant to the themes of environment, climate and sustainability, but more specific examples might include:

- Psychological and behavioural aspects of people and nature
- Ecological consequences of human actions
- Perception of, and behavioural responses to, environmental risks and hazards
- Māori and indigenous perspectives on the environment and its impacts
- Effects of environment (and perception of the environment) on human cognition and health
- Theories of environment-relevant behaviour, values, norms, attitudes, and personality
- Psychology of sustainability and climate change
- Psychological practice in the context of environment, climate and sustainability

Special issue Editors are drawn from the New Zealand Psychological Society's Climate Psychology Task Force and include Brian Dixon, Jackie Feather, Natasha Tassell-Matamua, and Marc Wilson. For further information about the Society's Climate Change initiatives please visit the Society [website](#).

The deadline for submissions to the Special Issue is August 1st, 2021.

Consistent with the imperative of the Journal, *any* submission must clearly articulate relevance in the context of Aotearoa New Zealand. Information about the Journal, and general author guidelines can be found [here](#).

Marc Wilson

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Reactions to Admissions of Wrongdoing

Simon Kemp, Zhe Chen, and Ailsa Humphries

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When people do wrong and then apologise for it, others may react by believing what the apologisee says (or not), forgiving them, thinking they were truly sorry and believing the apology helps the victim. In three scenario studies with a total of 1,669 respondents, we examined how ratings of the different reactions varied with the transgressor's profession, the nature of the victim and the perspective taken by the judge. These three factors all influenced reactions to the wrongdoing. In general, politicians were rated as being less believable, trustworthy, and less likely to be sorry than doctors; willingness to forgive decreased when the victim was junior; and respondents' attitudes towards the admission of an offence varied as a function of the specific perspective that they took. However, we also found that the different dimensions of the reactions varied differently with these factors and were not highly correlated.

Keywords: *forgiveness, intention, trust, surveys and questionnaires, humans, social behaviour, social perception*

Introduction

How do people react when someone does something wrong and affects or harms other people and then publicly admits and apologises for the fault? Here we explored different aspects of reactions to the admissions: whether the admissions are believed, whether the transgressor should be forgiven, the transgressor's perceived motives for apologising, and whether admission helps the victim. In scenario studies, we varied the profession of the transgressor, the person harmed, and the perspective of the rating judge. The research focussed on the correlations between the different types of reaction and the ways in which the different reactions varied with the manipulated variables.

There is a very large amount of previous research on topics that relate to the present paper. In particular, there is a good deal of previous research on blame and appropriate punishments for transgressions (e.g. Darley & Pitman, 2003; Kemp & Chen, 2015; Sanderson et al., 2000), and a perhaps even greater body of research on forgiveness. (See Fehr et al., 2010, for a synthesis and meta-analysis of some of the forgiveness research.) A characteristic of this research is that the different research topics seem to have developed somewhat independently of one another, and, even within the different topics, there has not always been much integration. Fehr et al. (2010, p. 895) remark that "[t]he very interdisciplinary nature of forgiveness research, which has pushed the literature in many important directions and has led to a deluge of empirical data, has at the same time hampered paradigmatic synthesis."

Nonetheless there are common themes. For example, forgiveness is less likely and blame greater if more harm is done and if the harm is perceived as intentional (Darley & Pitman, 2003; Fincham et al., 2005; Kemp & Chen, 2015; Leunissen et al., 2013; Malle et al., 2007). Of more relevance to the present research, forgiveness is more likely and blame is reduced if an apology is made (e.g. Blatz et al., 2009; Corlett, 2006; Eaton & Struthers, 2006;

Exline et al., 2003; Fehr et al., 2010), and if respondents take the perspective of the transgressor (e.g., Exline et al., 2008; Takaku, 2001).

If there is a transgression an apology may or may not follow, and this apology may or may not lead to forgiveness or mitigation of blame and punishment. There are thus two questions: Will the transgressor apologise and how will the apology be received? The answers to these questions depend to some extent on the personalities involved (Brown, 2003; Graziano et al., 1996; Howell et al., 2011) and to some extent on the situation (Fehr & Gelfand, 2012; Fehr et al., 2010).

The two questions are linked. Whether or not the transgressor apologises depends to some extent on their perception of how the apology will be received (Schuman, 2018). According to Schuman, transgressors are less willing to apologize when they do not perceive apologies to lead to forgiveness. Consistent with this view, Leunissen et al. (2014) show that transgressors can commit forecasting errors when they contemplate apologies. In one experiment, the researchers asked some respondents to imagine making an apology while other respondents actually made an apology after both groups were led to believe that they had committed an offense. Compared to those in the latter group, those in the imagine group overestimated the aversiveness of making an apology while simultaneously underestimating the likelihood that the apology would be accepted or lead to forgiveness. These results show that misperceiving the effects of an apology can be one reason why transgressors are reluctant to apologize. They also raise the possibility that similar discrepancies in perception may exist between transgressors and victims, and these discrepancies can also contribute to transgressors' willingness to apologize.

Whether or not the victim or recipient of the apology forgives or reduces blame or punishment depends on their perception of the motivation of the transgressor for apologising (e.g. Corlett, 2006). Both the apologisee and the recipient of the apology try to infer the state of mind

of the other party, and these processes may bring the two parties closer together cognitively and emotionally, perhaps creating empathy in the process (e.g. McCullough et al., 1998; McCullough et al., 1997). However, Leunissen et al. (2013) cast doubt on the extent to which empathy occurs, and their research shows differences between victims and transgressors. Apologies serve to reduce anger in victims and guilt in transgressors. More strikingly, transgressors tend to apologise for unintentional transgressions, but victims want apologies following intentional transgressions.

In what follows we report three studies, all of which required participants to react to scenarios in which people apologized for wrongdoing. In all the studies, five different ratings were asked for. One of these – trust in the profession of the wrongdoer – can be viewed as a control variable. The other four were designed to measure different aspects of the reaction to the apology: the extent to which the wrongdoer was believed when making the apology; whether the wrongdoer should be forgiven; whether the wrongdoer was truly sorry when making the apology; and the extent to which the victim of the wrongdoing was helped by the apology.

At first sight it might appear that these four variables should be reacted to similarly, and that a respondent who, for example, favours forgiving the wrongdoer also believes the statement, believes the wrongdoer is truly sorry, and that the victim is helped. However, as the brief review of the research outlined above suggests, this may not necessarily be true. It could be, for example, that the factors which influence belief in the sincerity of the apology might not be the same as those that influence whether the transgressor should be forgiven. In particular, the findings of Leunissen et al. (2013) with respect to different views on what apologies are expected to accomplish indicate that high correlations between the four different dependent variables, although theoretically simpler, might not necessarily exist.

Relatedly it could be that different independent situational variables might affect the different dependent variables in different ways. In Studies 1 and 2 the transgression scenario was the sending of a sexually suggestive email. In Study 1 we varied the profession of the wrongdoer (either politician or doctor) and whether the emails were sent to someone of similar or lower professional standing (either colleague or intern). As doctors are considered to be more honest and ethical than politicians (e.g., Ipsos MORI, 2018), we expected doctors to receive higher ratings than politicians in terms of trust, the believability of the admission, and the intention of the apology. We also hypothesized a lower forgiveness rating when the transgressor was a politician than a doctor, and when the victim was an intern rather than a colleague. These predictions were consistent with previous research (Zheng et al., 2016), which has shown that figures with high power are less likely to be forgiven, indicating that forgiveness would be less likely if those harmed were of lower professional standing. We had no specific prediction whether the two factors would have an additive or interactive effect.

In Study 2, we further investigated whether reaction to an admission of wrongdoing would lead to intention to punish the transgressor, for example, by not going to an

event attended by the transgressor; and whether the decision would depend on the type of event. Because several factors can influence a person's decision (see Study 2 for more details), we had no a priori predictions about the results.

Finally, in Study 3, we examined the effects of perspective-taking and its possible interaction with the type of victim. Previous research has shown that in general respondents are more willing to forgive when they take on the transgressor's perspective (e.g., Exline et al., 2008; Takaku, 2001, Takaku et al., 2001). These studies typically used an elaborative way to induce a perspective such as by asking respondents to recall a past event in which they were the wrongdoers or to imagine how the transgressor in a scenario would think, feel, and behave. In Study 3, we used a very simple way to vary perspective. We told respondents, via a sentence in the description of the scenario, that they were the transgressor, one of the victims, or nothing was mentioned. Our goal was to find out whether different perspectives could be triggered with minimal mental effort, and if so, whether and how they would interact with different types of victims.

Study 1 METHODS

Participants

There were 750 (246 male; 504 female) respondents in total, all recruited from a first-year class in psychology. Ages varied from 18-24 (666 respondents) to 55-64 (3 respondents). The questionnaires were completed online (using E-Prime) during scheduled lab times.

Design and Procedure

A single scenario was used in a 2 x 2 x 2 between-subject design, with the principal manipulations being transgressor (politician vs. doctor), victim (colleague vs. intern), and ordering (the trust question being the 1st or 2nd question – see below). It read:

“After a male **politician/doctor** was caught sending sexually suggestive emails to a female **colleague/intern**, he made a public admission that what he did was wrong. He said that the emails were sent while he was drunk, and that he was sorry for his behaviour.”

The respondents answered five questions, each on a nine-point scale from 1 (definitely no) to 9 (definitely yes). The questions were:

- As a whole, can **politicians/doctors** be trusted? (Trust)
- Do you believe what the **politician/doctor** said in the above scenario? (Belief)
- Should the **politician/doctor** be forgiven? (Forgiveness)
- Do you think that the **politician/doctor** admitted the wrongdoing because he was truly sorry? (Sorry)
- Do you think the admission helped the **colleague/intern**? (Help)

Words in parentheses were not included in the questionnaire, but are used below in the description of the results. As indicated by bold type above, there was a 2 x 2 manipulation of the transgressor and the status of the

receiver of the email. Additionally, the ordering of the questions was manipulated. Approximately half the participants answering each scenario saw the belief question before the trust question (N = 373); and the other half saw these questions in reverse order (N = 377). As doctors are known to be perceived as more trustworthy than politicians, there is a possibility that responses to the trust question might differentially affect the ratings to the belief question, resulting in the doctor receiving a higher rating for Belief than the politician. Including the ordering of these two questions as a factor would allow us to tease apart the effect of transgressor from the priming effect due to order. The order for the rest of the three questions was randomly determined for each participant.

RESULTS AND DISCUSSION

Table 1 shows the mean ratings for the five dependent variables collapsed across all the conditions and correlations between the ratings of these variables. In terms of correlations, noteworthy is that, although they are all positive and significant, they are not huge, and the higher correlations relate the two questions about the transgressor’s state of mind (i.e., whether the transgressor was truly sorry when making the apology) and the relationship between these inferences and forgiveness.

Table 2 shows the mean ratings for each dependent variables for each combination of transgressor and victim. Analyses of variance (ANOVAs) were conducted on each

dependent variables using transgressor, victim, and the ordering as factors. To correct for multiple testing, we used Bonferroni correction, setting the significance level to .01 (.05/5 = .01). For transgressor, there were main effects on Trust (Doctor mean = 6.61, SD = 1.57; Politician mean = 4.77, SD = 1.65; $F(1, 742) = 243.67, p < .001, \eta_p^2 = .25$), Belief (Doctor mean = 4.53, SD = 1.67; Politician mean = 4.10, SD = 1.68; $F(1, 742) = 12.39, p < .001, \eta_p^2 = .02$), and Sorry (Doctor mean = 4.03, SD = 1.83; Politician mean = 3.31, SD = 1.80; $F(1, 742) = 29.23, p < .001, \eta_p^2 = .04$), indicating that compared to politicians, doctors were perceived to be more trustworthy, their admission more believable, and their apology more genuine. For victim, there was a main effect on Help (Colleague mean = 4.60, SD = 2.17; Intern mean = 4.12, SD = 2.11; $F(1, 742) = 9.23, p = .002, \eta_p^2 = .01$), indicating that the admission was deemed more helpful to a colleague than an intern. There were also several effects involving Forgiveness: the main effects of transgressor (Doctor mean = 5.11, SD = 1.77; Politician mean = 4.81, SD = 1.92; $F(1, 742) = 5.07, p = .025, \eta_p^2 = .01$) and victim (colleague mean = 5.12, SD = 1.74; Intern mean = 4.79, SD = 1.95; $F(1, 742) = 6.17, p = .013, \eta_p^2 = .01$), and their interaction ($F(1, 742) = 4.29, p = .039, \eta_p^2 = .01$). These results indicate a trend for respondents to be more forgiving when the transgressor was a doctor rather than a politician and when the victim was a colleague rather than an intern. Furthermore, the effect of the victim was larger for a politician (a difference of .61, $p = .007$) than for a doctor (a difference of .06, $p = .06$). No other effects were reliable.

Summarising the main features of the tables, note first that except perhaps with the Sorry variable, the average overall ratings were mostly near the middle of the scale and with quite large standard deviation, indicating a considerable degree of uncertainty. Consistent with previous research (Zheng et al., 2016) and with our hypotheses, colleagues were thought more likely to forgive than interns, and politicians were generally less believable, trustworthy, and less likely to be sorry than doctors. Note, however, the differences between politicians and doctors were not large, except with respect to Trust. Priming the respondents with Trust made no significant difference to these perceptions.

In addition to the above results, colleagues were thought more likely to be helped by the admission statement than interns. Although we did not make any a priori prediction about this, the finding is not surprising. Interns are typically young. As a society, we would like to consider it a moral duty to protect the young and the

Table 1. Overall ratings for the five dependent variables and Pearson correlation coefficients between these variables in Study 1.

	Mean	SD	1	2	3	4	5
1. Trust	5.69	1.85	--	.28	.24	.29	.11
2. Belief	4.31	1.69		--	.43	.48	.28
3. Forgiveness	4.96	1.85			--	.44	.29
4. Sorry	3.67	1.85				--	.32
5. Help	4.36	2.15					--

Note. N = 750. SD = standard deviation. All ratings on a scale from 1 (Definitely no) to 9 (Definitely yes), and all correlations significant at $p < .01$ (two-tailed).

Table 2. Average ratings for the five dependent variables (DV) of Study 1 for the two transgressors and two victims.

Transgressor:	Politician		Doctor	
	Receiver: Colleague	Intern	Colleague	Intern
Trust	4.77	4.77	6.46	6.76
Belief	4.13	4.06	4.48	4.58
Forgiveness	5.11	4.50	5.14	5.08
Sorry	3.29	3.33	4.11	3.94
Help	4.50	4.19	4.69	4.05

Note. All ratings on a scale from 1 (Definitely no) to 9 (Definitely yes).

vulnerable, and a mere apology may not be considered very helpful.

Study 2

Study 2 was similar to Study 1. However, the sample was smaller. We also added a question regarding a social event with the transgressor. We examined whether the willingness to attend the social event would vary according to whether the transgressor was a politician or doctor and whether the social event was a public school fund raising party at a hotel or a private dinner party at home. We had no particular hypothesis as to whether the private or public event was more likely to be shunned. If the primary factor in the decision is the nature of the event, then the school fund raising party is more likely to be attended because it is a “good” event that contributes to the local community. However, if the deciding factor is the nature of the transgression, there should be no difference between the two events. In real life, it is also possible for the main concern to be the perception of others. In that case, people may not want to be seen socializing with a transgressor, and this would make them more reluctant to attend a public event compared to a private one. As our main interest in Study 2 was to explore respondents’ behavioural intentions as a function of the type of social events, we did not include victim as a factor.

METHODS

Participants

One hundred and sixty people (47 male and 113 female) took part. They were first-year psychology students, with an age distribution similar to Study 1. Ages varied from 18-24 (148 respondents) to 55-64 (1 respondent). As in Study 1, roughly half the participants answering each scenario saw the belief question before the trust question (N = 81); and the other half saw these questions in reverse order (N = 79).

Design and Procedure

A similar scenario to Study 1 was used, but in this case there was no manipulation of the victim:

“After a male **politician/doctor** was caught sending sexually suggestive emails to a female intern, he made a public admission that what he did was wrong. He said that the emails were sent while he was drunk, and that he was sorry for his behaviour.”

The dependent variables were identical to those used in Study 1 but one was added at the end. It read:

“Imagine that your parents are planning to have a **dinner party at home/a school fund raising party at a local hotel**. They had already invited the **politician/doctor** before the news about the scandal broke out, and they have decided not to un-invite him. You have also been invited to the party. Your parents are

now giving you a choice whether to attend the party or not. Are you going to attend?”

Note that this variable featured an independent variable of its own: the nature of the social event. Responses were on a scale from 1 (Definitely no) to 9 (Definitely yes).

RESULTS AND DISCUSSION

Tables 3A and 3B show the mean ratings for the first five dependent variables (i.e., the questions identical to those in Study 1) and the final event question, respectively. As in Study 1, we set the significance level to .01 for the first five dependent variables. A series of 2 x 2 ANOVAs, with transgressor (doctor vs. politician) and the ordering (Trust 1st vs. 2nd) as the factors. For transgressor, there were main effects on Trust (Doctor mean = 6.74, SD = 1.68; Politician mean = 4.83, SD = 1.62; $F(1, 156) = 53.0, p < .001, \eta_p^2 = .25$) and Sorry (Doctor mean = 4.23, SD = 1.81; Politician mean = 3.41, SD = 1.73; $F(1, 156) = 8.41, p = .004, \eta_p^2 = .05$), but not on Belief ($F(1, 156) = 3.02, p = .08, \eta_p^2 = .02$), Forgiveness ($F(1, 156) = 1.78, p = .18, \eta_p^2 = .01$), or Help ($F(1, 156) = 1.54, p = .22, \eta_p^2 = .01$), although the differences between the means in the latter three cases were in similar directions to those in Study 1. No other effects were reliable. When the difference in sample size is allowed for, the results of Study 2 are reasonable replications of those in Study 1.

For the event question, we performed a 2 x 2 x 2 ANOVA with transgressor, event type, and ordering as the three factors. Respondents were more willing to attend the hotel event (mean = 6.66, SD = 1.95) than the dinner party at home (mean = 5.64, SD = 2.46; $F(1, 152) = 9.13, p = .003, \eta_p^2 = .06$). No reliable effect of transgressor was found ($F(1, 152) = 2.93, p = .089, \eta_p^2 = .02$), but there was

Table 3A. Average ratings for the first five dependent variables of Study 2 for the two transgressors and overall.

	Politician	Doctor	Overall
Trust	4.83	6.74	5.78 (1.91)
Belief	4.06	4.53	4.29 (1.73)
Forgiveness	4.69	5.09	4.89 (1.92)
Sorry	3.41	4.23	3.82 (1.81)
Help	4.15	4.55	4.35 (2.08)

Note. All ratings on a scale from 1 (Definitely no) to 9 (Definitely yes). Values in parentheses following the overall means are overall standard deviations.

Table 3B. Average ratings for the two transgressors, two events, and overall in Study 2.

Politician		Doctor		Overall
Fundraising	Dinner Party	Fundraising	Dinner Party	
6.38	5.32	6.93	5.98	6.14 (2.27)

Note. All ratings on a scale from 1 (Definitely no) to 9 (Definitely yes). The values in the parenthesis following the overall mean is the overall standard deviation.

a 3-way interaction of transgressor, event, and ordering ($F(1, 152) = 10.21, p = .002, \eta_p^2 = .06$). To clarify the interaction, we conducted two separate 2 x 2 ANOVAs, one with politician and the other with doctor as the transgressor. For the politician condition, the only reliable result was the main effect of event ($F(1, 76) = 4.35, p = .040, \eta_p^2 = .05$). For the doctor condition, in addition to the main effect of event ($F(1, 76) = 4.86, p = .031, \eta_p^2 = .06$), event and ordering interacted ($F(1, 76) = 10.34, p = .002, \eta_p^2 = .12$). Tukey's Honest Significant Difference test further revealed that the respondents in the Trust 1st group expressed less willingness to attend the dinner party (Trust 1st mean = 5.00, SD = 2.43) than those in the Trust 2nd group (Trust 2nd mean = 6.86, SD = 2.01; $p = .02$). No ordering effect was found when the event was the school fund raising (Trust 1st mean = 7.45, SD = 1.47; Trust 2nd mean = 6.40, SD = 2.09, $p = .36$). No other effects were reliable.

Note, firstly, that on average respondents were willing to consider attending the event rather than playing a role in ostracising the transgressor, although there was considerable individual variation in this. Secondly, the willingness to attend or ostracise was subtly dependent on the type of the social event. Compared to a private dinner party at home, respondents appeared to be more willing to attend a public school fund raising party in a hotel, perhaps because the latter could be perceived as an event with a good cause, and/or because there was a low probability of having to interact with the transgressor if one did not want to.

However, whether the transgressor was a politician or a doctor made no significant difference to the respondent's willingness to attend the social event with the transgressor. Nor was there an interaction ($F < 1$). Surprisingly, priming the respondents with Trust (i.e., the Trust 1st group) made them less willing to attend the dinner party and this effect occurred only when the transgressor was a doctor. We have no explanation for this finding.

Study 3

Study 1 found the different dependent variables to be moderately rather than strongly correlated, and, moreover, the different dependent variables were differently affected by the independent variables. Allowing for a smaller sample, these results were broadly true in Study 2. Study 3 examined whether comparable results might hold when the same dependent variables were used but a rather different scenario was employed, and whether the perception of the admission would be affected by the perspective/role of the respondents, and if so, whether the effects would interact with the type of victims.

Previous studies have shown that perspective-taking promotes conciliatory attitudes that lead to more willingness to forgive (e.g., Exline et al., 2008; Takaku, 2001; Takaku et al., 2001). However, perspective-taking is not always associated with willingness to forgive, and factors such as gender (e.g., Exline et al., 2008; Exline & Zell, 2009) and the type of measure (Welton et al., 2008) have been found to influence the relationship between the two. Unlike previous studies, in which different perspectives were induced by requiring respondents to

engage in extensive cognitive processing, we manipulated perspective-taking by simply telling the respondents that they were the wrongdoer (the transgressor), one of the victims (the victim), or not mentioning any specific role (the observer). If such a simple role-taking method is sufficient to cause a change in the respondents' responses to different dependent variables, we should expect those in the "transgressor" group to be more likely to express willingness to forgive and to perceive the admission as being due to remorse compared with those in the other two groups. Additionally, Study 3 also examined whether one specific type of forecasting error reported by Leunissen et al. (2014), i.e., the finding that respondents who imagined making an apology underestimated the helpfulness of the apology than the respondents who made an apology, could also exist between those taking the perspective of the transgressor and those taking the perspective of the victim.

METHODS

Participants

A total of 759 participants (233 of them male; 697 aged 18-24 years) completed the study. All were enrolled in an introductory psychology course (different intake to those in Studies 1 and 2) and completed the studies as part of a laboratory exercise.

Design and Procedure

Each participant read one scenario. The scenario varied the perspective the participant was asked to take - observer, transgressor, or victim - and the sufferers from the action - either workers or young children - in a 3 x 2 between-subjects design. We named the second factor "sufferers" so that the word "victim" could be used to refer to one of the perspectives. The scenario from the perspectives of the transgressor/victim in combination with the two types of sufferers read:

"A doctor had supported a public health measure in the media without researching it properly. This measure negatively affected a great number of people, especially **workers/young children**. You are **that doctor/one of the victims**. You/The doctor made a public admission that what you/he did was wrong. You/He said that you/he had a particularly busy schedule at the time, and that you/he were/was sorry for not spending sufficient time researching the issue."

The scenario from the perspective of the observer did not have the "(Y)ou were that doctor/one of the victims" sentence. Participants answered five questions on trust, belief, forgiveness, sorry, and help. The questions were answered on the same 9-point scales as in Study 1 and the wording was the same as the doctor condition of Study 1 except for changes to accommodate the differences in perspective and sufferers. For example, the sorry question for the transgressor perspective read: "Did you admit the wrongdoing because you were truly sorry for the harm you caused?"

The ordering of the questions was also similar to Study 1 except that every respondent started with the trust question, followed by the believe question. As there was no ordering effects in Study 1, ordering was not manipulated in Study 3.

RESULTS AND DISCUSSION

Table 4 shows the mean ratings for the five dependent variables collapsed across all the six conditions and correlations between the ratings of these variables. The tendency shown in Study 1 for moderate positive correlation was replicated here although generally at a slightly lower level. The average participant was usually undecided or very mildly positive in their reaction to the doctor’s admission, except for the Help question where the average participant thought the admission was somewhat unhelpful. However, the standard deviations indicate substantial differences between individuals in their reactions.

The mean results for each combination of experimental conditions are shown in Table 5, and a series of five 3 x 2 ANOVAs explored the impact of perspective and sufferer on the five dependent variables. We again set the significance level to .01. For Trust, there was no evidence that responses were affected by perspective, sufferer, or their interaction. For Belief, there was a main effect of perspective ($F(2, 753) = 9.60, p < .001, \eta_p^2 = .02$). Tukey’s HSD test showed that the average rating was lower when the perspective was the transgressor (mean = 4.66, SD = 1.76) compared with the victim (mean = 5.14, SD = 1.85) or the observer (mean = 5.35, SD = 1.82), with no difference between the latter two. These results indicate that taking the perspective of the transgressor had a negative impact on the believability of the admission. For Forgiveness, there was a significant effect of sufferer ($F(1, 753) = 8.06, p = .005, \eta_p^2 = .01$), suggesting that willingness to forgive decreased when the sufferers were children (mean = 5.16, SD = 2.03) rather than workers

(mean = 5.56, SD = 1.83). For Sorry, there was an effect of perspective ($F(2, 753) = 55.70, p < .001, \eta_p^2 = .13$). Further analysis using Tukey’s HSD test indicated that the average rating was higher for those taking the perspective of the transgressor (mean = 6.98, SD = 2.08) than that of the victim (mean = 5.34, SD = 1.89) or the observer (mean = 5.40, SD = 6.50). There was no difference between the latter two groups. These results suggest that taking the perspective of the transgressor could lead to the apology being perceived as more likely to reflect remorse. For Help, a main effect of perspective was found ($F(2, 753) = 33.91, p < .001, \eta_p^2 = .08$). Subsequent Tukey’s HSD showed a higher rating from the victim perspective (mean = 4.48, SD = 2.26) than from the transgressor (mean = 3.22, SD = 2.16) or the observer (mean = 3.13, SD = 1.91) perspective, indicating that the admission was perceived as being more helpful from those in the position of a victim than from those in the other positions. The effect of sufferer was also reliable ($F(1, 753) = 27.82, p < .001, \eta_p^2 = .04$), suggesting that respondents deemed the statement more helpful for workers (mean = 4.00, SD = 2.24) than for children (mean = 3.21, SD = 2.09). In addition, perspective and sufferer interacted ($F(2, 753) = 6.62, p = .001, \eta_p^2 = .02$). To clarify the interaction, we conducted three one-way ANOVAs, one for each perspective. For those taking the perspective of the transgressor or the observer, there was an effect of sufferer ($F(1, 250) = 32.75, p < .001, \eta_p^2 = .12$, for the transgressor; and $F(1, 252) = 10.81, p = .001, \eta_p^2 = .04$, for the observer). In both cases, the average rating for workers was higher than that for children (For the transgressor perspective: Workers mean = 3.94, SD = 2.67; Children mean = 2.48, SD = 1.76. For the observer perspective: Workers mean = 3.52, SD = 2.00; Children mean = 2.75, SD = 1.74), indicating that the respondents considered the apology more helpful for workers than for children. In contrast, there was no evidence that those taking the perspective of the victim were influenced by the type of sufferer ($F(1, 251) < 1, ns$), as no reliable difference was found regardless of whether the sufferers were workers (mean = 4.54, SD = 2.33) or children (mean = 4.41, SD = 2.20).

From the analyses and Table 5 a number of results emerge. First, a reliable effect of perspective was found in several dependent variables, suggesting that merely asking respondents to take up a specific role can trigger changes in their attitudes towards the admission of an offence. On the one hand, compared with those who took the role of the victim or the observer, those who took the role of the transgressor were more likely to think that the admission was made out of remorse, a result consistent with the finding of previous research that taking the

Table 4. Overall ratings for the five dependent variables and Pearson correlation coefficients between these variables in Study 3.

	Mean	SD	1	2	3	4	5
1. Trust	6.53	1.39	--	.29	.19	.17	.12
2. Belief	5.05	1.83		--	.31	.30	.19
3. Forgiveness	5.36	1.94			--	.26	.31
4. Sorry	5.90	2.11				--	.14
5. Help	3.61	2.20					--

Note. N = 759. All ratings on a scale from 1 (Definitely no) to 9 (Definitely yes), and all correlations significant at $p < .01$ (two-tailed).

Table 5. Average ratings for the five dependent variables of Study 3 for the three perspectives and two victims.

Perspective:	Observer		Transgressor		Victim	
	Workers	Children	Workers	Children	Workers	Children
Trust	6.56	6.63	6.71	6.30	6.59	6.39
Belief	5.43	5.27	4.65	4.67	4.96	5.32
Forgiveness	5.72	5.31	5.40	4.94	5.55	5.22
Sorry	5.49	5.31	7.06	6.89	5.17	5.51
Help	3.52	2.75	3.94	2.48	4.54	4.41

Note. All ratings on a scale from 1 (Definitely no) to 9 (Definitely yes).

perspective of a transgressor promotes conciliatory attitudes, which in turn can lead to more willingness to forgive (e.g., Exline et al., 2008; Takaku, 2001; Takaku et al., 2001). On the other hand, those taking the role of the transgressor thought that the admission was less likely to be believed and less helpful than those taking the role of the victim. These results extended the research of Lunissen et al. (2014), who showed that respondents made forecasting errors about the perceived helpfulness of their apology when they imagined making an apology compared with those who actually made an apology. In the present study, we show the existence of a similar forecasting error when responses from those taking the perspective of the transgressor were compared with the responses from those taking the perspective of a victim. Thus, people are neither very good at predicting the affective state of their own future self (Leunissen et al., 2014; Wilson & Gilbert, 2003) nor very good at predicting the affective state of their victims, and these misperceptions can contribute to transgressors' reluctance to apologize. It is worth noting that no reliable effects were found for Trust, which in any case calls for a decision about a profession not an individual.

Exline and colleagues (Exline et al., 2008; Exline & Zell, 2009) reported that gender modulated the relationship between perspective-taking and willingness to forgive in that the effect of perspective-taking was more pronounced in male respondents compared with female respondents. To check whether a similar relationship existed in our study, we included gender as a factor in a series of 2 x 3 x 2 ANOVAs. The only significant effect involving gender was for Trust, which showed a main effect ($F(1, 747) = 19.13, p < .001, \eta_p^2 = .02$), indicating that male respondents trusted the doctor more (mean = 6.87, SD = 1.44) compared with female respondents (mean = 6.38, SD = 1.34). There was no indication that the effect of perspective-taking influenced willingness to forgive. The null results in our study are generally consistent with the result of a meta-analysis conducted by Fehr et al. (2010), which also found little evidence that gender influenced forgiveness.

Second, respondents' reactions varied with the type of sufferers. If the sufferers were young children then the doctor was less likely to be forgiven, and the sufferers less likely to be helped by the admission. Furthermore, how helpful the admission was perceived was a joint function of perspective and sufferer. Whereas those who took the role of the doctor or an observer considered the admission less helpful when the sufferers were children compared to workers, no such difference was found for those who took the role of the victim. Inspection of the ratings across the three groups that received "children as sufferer" scenarios (i.e., the transgressor-children, victim-children, and observer-children groups) further revealed that the interaction between perspective and sufferer was caused primarily by a higher rating in the victim-children group than in the other two groups. Thus, when respondents put themselves in the position of a victim, the type of sufferers no longer affected their ratings.

Comparison of the results of Studies 1 and 3 indicates that on average the sexually suggestive emails of Study 1 were rated less favourably on virtually every dimension than the health harm of Study 3. Comparing "like with

like", we find the average rating from the observer's perspective in the "doctor" scenario lower in Study 1 than in Study 3 for Belief ($F(1, 628) = 33.69, p < .001, \eta_p^2 = .05$); Forgiveness ($F(1, 628) = 7.62, p = .006, \eta_p^2 = .01$), and for Sorry ($F(1, 628) = 80.59, p < .001, \eta_p^2 = .11$). There was no difference for Trust ($F(1, 628) < 1, ns$), which serves here as a control for differences between the different samples.

The average rating for Help was also lower in Study 3 than in Study 1 ($F(1, 628) = 55.85, p < .001, \eta_p^2 = .08$). Perhaps this was because the apology, regardless of its sincerity, could not do very much for physical damage that had already been done.

General Discussion

A number of general conclusions may be drawn from the three studies. The different dependent variables used in the studies were not strongly related to one another. This is shown by the correlations in Tables 1 and 4 which are small to moderate rather than large. For example, to forgive someone who admits their wrongdoing is not the same as finding the admission helpful, believing the admission, or thinking that the wrongdoer was really sorry.

The lack of strong correlations between the different dependent variables to some extent reflects the different dependencies that the variables had with the individual variables. In Study 1 whether a colleague or a junior was the recipient of the apology was seen as affecting forgiveness and the helpfulness of the apology. Similarly in Study 3, the nature of the sufferer influenced these variables. On the other hand in neither study was the nature of the recipient or sufferer important for determining whether the admission was believable or whether it was thought sincere. The results of the two studies are thus quite consistent with each other: They indicate that evaluating the effect of an admission of wrongdoing depends strongly on the particular measure used to determine its impact. As a kind of coda to this conclusion, Study 2 showed that people's willingness to ostracise a wrongdoer depended on the particular social event in question.

Some of the manipulations of the independent variables produced similar results to previous research. The lack of trust of politicians and the finding that their admissions were more cynically received reflect earlier findings from Zheng et al. (2016). Also in line with this previous research was our more general finding that harming more junior people or younger children was seen as less forgivable.

In addition to the above findings, the present research also extended prior research on the effect of perspective-taking. Leunissen et al. (2014) reported that respondents who imagined making an apology tended to underestimate the likelihood that the apology would be accepted or would lead to forgiveness compared with the respondents who made an apology. In Study 3, we found that relative to those in the role of the victim, those in the role of the transgressor gave a lower average rating for Belief and for Help. This pattern of data is largely consistent with Leunissen et al., indicating that taking the perspective of a transgressor could make one less likely to believe one's

own apology and its potential positive consequences to the victim.

This pattern of data is also consistent with an alternative interpretation, i.e., taking the perspective of a victim could make one more likely to believe the transgressor's apology. Because we included an observer perspective in our study, we can distinguish between these two accounts by comparing the patterns of responses among the three groups. Interestingly, responses from the observer perspective group did not always mirror those from the victim or the transgressor perspective group. For Belief, the average rating from the observer perspective group was comparable to that from the victim perspective group, and both were higher than the rating from the transgressor perspective group. In contrast, for Help, the ratings from the observer and the transgressor groups had no significant difference, and both were lower than the rating from the victim perspective group. If we consider the responses from the observer perspective group as a baseline, the above pattern of data suggests that while taking the perspective of a transgressor can lead to underestimation of the believability of an apology, it does not necessarily change the perceived helpfulness of the apology. Furthermore, relative to the other perspectives, taking the perspective of a victim can have a facilitatory effect in the perceived helpfulness of the apology, even though that perspective does not make the apology more believable.

In Study 3, the respondents in the transgressor perspective group gave a higher average rating for Sorry than those in the other groups, suggesting that taking the perspective of the transgressor can lead one to deem the admission of wrongdoing as being more genuine. Leunissen et al. (2013) pointed out that an apology serves different goals among transgressors and victims, with the goal being the reduction of guilt for transgressors but the reduction of anger for victims. Our finding suggests that in addition to different functions, an apology may also be perceived as reflecting different levels of remorse, with transgressors attributing more remorse than victims. It is also worth noting that all of the above results were found in a simple role-taking paradigm, suggesting that taking another person's perspective is likely to be a process that does not require extensive cognitive processing, and can be triggered with minimal effort.

Studies 1 and 2 used a scenario where someone sent sexually suggestive messages, Study 3 a scenario where the health of a number of people was negatively affected. Previous research (e.g. Fehr et al., 2010; Fincham et al., 2005; Kemp & Chen, 2015) suggests that people are less

likely to forgive and more likely to blame the wrongdoer when serious harm occurs. However, it is difficult to imagine that a sexually suggestive email could do more harm than a public health failure. There are a number of possible explanations for the direction of the difference we obtained - for example, even though the emails did less damage, their sending might be viewed as more mischievous than a professional mistake.

The research is subject to a number of limitations. Only two different scenarios were used. Although the samples used were large, they were restricted to university students. Like much but not all of the previous research in this area, all three studies employed scenarios, so it is unclear to what extent the results would apply in real life. A rather more subtle limitation is that of time. As remarked in the previous paragraph, we found the suggestive emails were less forgivable than the public health failure. However, all our studies were conducted in pre-Covid days, and it would not be surprising if this result now reversed.

There was a good deal of individual difference in the participants' reactions to the admissions. The average response on most of the variables in all studies could be reasonably described as uncertain, but the large standard deviations indicate that many individuals did have quite defined views but these were often in different directions. Previous research suggests that these individual differences in reactions are related to personality variables (e.g. Fehr et al., 2010) but we did not investigate those here.

In New Zealand as elsewhere it has become common for transgressors to apologise, and sincere apologies are thought to benefit victims. However, this expectation may need modification. A central finding in the present study is that different reactions to an admission of wrongdoing are not strongly correlated and that they seem to be affected by the different factors that in our studies were manipulations but that in real life would be different situational factors. This finding has implications. An apology that leads to forgiveness for the transgressor is not necessarily going to be helpful to the victim. An apology that helps the victim may not lead to the absolution that the transgressor seeks. The perception that the apology is not believable may not always matter. This paper does not set out many of the precise conditions when such disconnects might be expected, but it does show that they occur.

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Case Study: How data can help with understanding the high numbers of people using a mental health inpatient unit

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This paper critically analyses the data associated with tāngata whai ora admitted into the Waikato District Health Board's (DHB) Mental Health and Addictions Service (MHAS) inpatient unit, the Henry Rongomau Bennett Centre (HRBC) with the aim of developing a greater understanding of that data to inform clinical decision making. We review data relating to the three-month period prior to admission, data gathered during admission and then data collected in the three months after discharge. We describe the methodology adopted to understand the presentation of tāngata whai ora in the HRBC, utilising the patient management system data and programme for the integration of mental health data (PRIMHD) and how this was developed into simplified infographics that was used for a workshop presentation to senior managers and clinicians from the MHAS. There are several interesting findings from this case study, which will be of interest to other DHB's. The development of a general and Māori specific Infographic plus data for people admitted to HRBC showing the importance of Health of the nation outcome scales, a comparison of people admitted and not admitted with 10+ contacts and those presenting at emergency department (ED) with mental health and addiction problems. Analysing data from the HRBC has resulted in a greater understanding of individuals prior to, during and after their admission to HRBC. This greater understanding has created new knowledge of potential points in tāngata whai ora journeys where clinicians can intervene to create better outcomes for them.

Keywords: *Inpatient Mental Health, Data, Access.*

Introduction

A significant issue for Mental Health and Addiction Services in New Zealand has been the well documented increase in the number of people accessing these services (MoH, 2019a). This increase has been particularly challenging for inpatient units who are typically treating the most acutely unwell individuals in the mental health and addiction system. One consequence of this increased workload is that understanding trends and patterns, in terms of admissions, has become harder because of the volume of work being completed. In addition, there has never been more data available to Mental Health and Addiction Services and yet with so much data, it is hard to distinguish between what is essential and non-essential. As the saying goes 'it is sometimes hard to see the forest for the trees'. While there has been significant work overseas (Statistics for Wales 2018, NHS 2019, NIH 2019) on understanding inpatient data, there has been little analysis of New Zealand inpatient mental health data beyond the Key Performance Indicator project. Much of this literature focuses on wanting better data in mental health services, (Teich, 2016) and a strong emphasis on how ethnic minorities are more likely to be admitted into inpatient units and that their admission tends to be for a longer period of time once admitted (Snowden & Cheung, 1990).

As part of a wider focus on the acuity and volume of

admissions into the HRBC, the MHAS of the Waikato DHB decided to initiate a project with Te Pou o Te Whakaaro Nui (Te Pou) to explore their data to see if there were trends or aggregated information that could inform clinical practice.

A small project team (please see acknowledgements) was formed to explore and analyse the wealth of data available. It became quite clear early on in this process that there was considerable data and this would make it difficult to distinguish essential and non-essential data. This insight led to the development of a conceptual and narrative model to assist with identifying what data to gather and then analyse. Conceptually, data was seen as linking progressively to provide, firstly, information and then to generate knowledge and eventually clinical insights utilising the data-information-knowledge hierarchy model (Ackoff et al., 1999; Rowley, 2007). Without understanding the first step, namely understanding the data, this progression would not be possible and the knowledge and clinical insight needed to reduce the high numbers of tāngata whai ora being admitted and treated in the HRBC.

The project group decided the best way of understanding the data of those admitted to the HRBC would come from the MHAS having as much information about individuals' engagement with a range of services. The overall narrative model adopted a flow diagram

which involved understanding tangata whai ora data before, during and after admission to the inpatient unit.

METHOD

Participants

Individuals in this study had been admitted in the HRBC inpatient unit for treatment of a mental health disorder on one or more occasions during the time period of this study. There were 379 admissions to HRBC of 339 individuals. 327 individuals were aged between 18 and 65 years with two under 18 and seven over 65 years of age.

Design

Initial meetings of the project group about the potential to use available data sets to better understand admissions into the HRBC resulted in a decision to focus on data from a four-month period from August to November 2018 for any individual who had been discharged from HRBC. The rationale for this time period was to ensure that information post discharge would be available in the PRIMHD data because of the lag in the production of this data set and that a four month period would be long enough to be representative of a typical time period in the HRBC. The analysis was conducted using an extract from the Ministry of Health dated 9 July 2019 from PRIMHD. Analysts from Te Pou and the Waikato DHB combined patient management system data with data from PRIMHD to complete their initial and later analyses. PRIMHD data is collected by all DHBs and Non-Government Organisations (NGOs) who provide mental health and addictions services in New Zealand. PRIMHD data is submitted to the Ministry of Health who use it as monitor of the performance of respective organisations, a guide for the development of policy, and to aid research. PRIMHD data is collected as a part of the treatment of individuals and includes information about service contacts (date, service type, team and provider), diagnosis and legal status under the mental health act.

The project group decided to look at three-month periods both prior to admission and after discharge to provide a fuller picture of the level of engagement and interventions tangata whai ora received in the community across a more representative timeframe. Given the importance placed by the Waikato DHB on achieving equity for Māori in health outcomes, a determination was made to analyse Māori data both as a part of the whole data set and separately to see if there were any findings specific to Māori. Where there were any significant differences in the two data sets, the intention was to highlight them.

In terms of pre-admission, the project group looked for data about what community-based services individuals had been accessing prior to admission; for example, community mental health services, local emergency departments (ED), and non-governmental organisations. Data was also gathered on the location of individuals who had been in and whether they were known to the DHB when admitted.

Data gathered about admissions for tangata whai ora included: whether they were under the mental health act, what their average length of stay was, any diagnoses received while they were an inpatient and what the severity of their mental health presentations were. Further data was also gathered on individuals' engagement with their GP's and their current housing status.

The data gathered about tangata whai ora on their discharge from HRBC focussed on knowing what services they had engaged with when discharged and what level of contact they received when discharged as well as understanding any readmissions to the HRBC.

This data was worked up into infographics for both the general population (which included Māori) and an infographic specifically for Māori (See Appendices 1 and 2). These infographics and the data connected to them were then presented to a group of senior clinicians and managers from the DHB in a workshop where they were fully discussed and further analysed.

The outcome of this workshop was a decision to focus further analysis in three areas:

1. Gaining a better understanding of the group of tangata whai ora admitted with subclinical or mild scores on the Health of the Nation Outcome Scale (HoNOS) scores. The HoNOS is a clinician rated tool used to measure the health and social functioning of tangata whai ora using services (Wing et al., 1998).
2. Exploring whether there were differences between tangata whai ora with 10+ contacts prior to their admission and those with 10+ contacts who did not have an admission. 10+ contacts refers to tangata whai ora who had 10 or more appointments with health professionals in the three month period prior to their admission.
3. A more detailed analysis of data relating to ED presentations and mental health services.

A longer timeframe of one year (April 2018 to March 2019) was utilised for the additional analysis of ED data to ensure that variations in data due to different times during the year, for example, holidays, were controlled for. Data on ED attendances in this further analysis focussed only on mental health and addiction presentations in that tangata whai ora needed to have seen a mental health and addiction clinician.

A more detailed analysis of data relating to the 159 tangata whai ora who had had 10+ face to face contacts in the 3 months prior to admission investigated what their contacts consisted of, for example, what the length of time of the contact was. The dates for these contacts varied depending on when they were admitted. A decision was made to select a comparison group to see if there were any significant differences between the groups that could help to explain why tangata whai ora were or were not admitted to the HRBC. This comparison group was selected from tangata whai ora seen between June and August 2018 for people age 18-64 years with at least one contact out of the 10+ at Waikato DHB (further contacts beyond one might be with other services) in the period with those who had no inpatient stay at Waikato DHB. This period of time was selected to be a reasonable comparison with the people who were admitted. These face to face contacts included bed nights from both DHB and NGO services.

RESULTS

Demographics

There were 336 individuals admitted to HRBC in the period analysed with 379 admissions, since a number of tangata whai ora were admitted on more than one occasion (one tangata whai ora had 5 admissions, seven had 3

Table 1. Number of admissions to HRBC by ethnicity and gender

Ethnicity	Males	Females	Total
Māori	110 (29%)	74 (20%)	184 (49%)
Non-Māori	107 (28%)	88 (23%)	195 (51%)

Table 2. Number of admissions by age range and ethnicity

Age Range	Māori	Non-Māori	Total
0-18 years of age	1 (<0.5%)	1 (<0.5%)	2 (0.5%)
18-24 years of age	56 (15%)	36 (9.5%)	92 (24.5%)
25-44 years of age	82 (21.5%)	81 (21%)	163 (42.5%)
45-64 years of age	45 (12%)	70 (18.5%)	115 (30.5%)
65 years of age or older	0 (0%)	7 (2%)	7 (2%)

admissions and twenty five had 2 admissions) during that time period. Of all the admissions to HRBC, 217 (57%) were male and 162 (43%) were female. 184 (49%) of admissions were Māori, which clearly describes an over-representation of Māori in admissions given the demographics of the Waikato region (MoH 2019 b). Table 1 presents information for ethnicity and gender of admissions.

When admissions are broken down into age ranges, Māori continue to be over-represented, most significantly in the 18-24 age group where they made up 61 percent of admissions. Table 2 summarises data relating to age range and ethnicity.

Three Months Prior to Admission

There were 159 admissions (47%) to HRBC who had 10+ face-to-face contacts in the three months prior to admission – an average of at least weekly contact. A further 65 (17%) had between three and nine face-to-face contacts prior to admission and 60 percent of all admissions had been seen face-to-face in the week prior to admission.

There were 99 admissions (26%) who were not known to MHAS in the three months prior to their admission and

the majority of these, 80 (21%), were also not known to other DHB's or NGO's. There were 139 admissions (36%) admitted to HRBC who had attended the Emergency Department in the three months prior to admission on an average of two occasions.

Admission

The average length of stay in HRBC was 23.7 days but this was distorted by a small number of tāngata whai ora who had significantly longer admissions. As a result, the median was also calculated and this showed that most people were inpatients for 12 days. A small group of 26 admissions to HRBC had HoNOS scores that were either in the sub-clinical or mild range, with 22 of these identifying as Māori. Table 3 presents information for the most common diagnoses for admissions into HRBC.

Three Months Post Discharge

There were 338 admissions (89%) who were involved with MHAS after their discharge and 341 admissions (90%) were followed-up within one week of their discharge by either MHAS or another service. Over the three-month period post discharge, 124 admissions (33%) had 10 or more face-to-face contacts and another 151 admissions (40%) had between three and nine face-to-face contacts.

28 percent of admissions into HRBC were seen in ED within three months of discharge but there was a reduction in mean frequency from two to one visit. For Māori admissions, a similar percentage presented at ED but the mean frequency remained at two visits.

Data from the second set of analyses, following the workshop with senior managers and clinicians from Waikato DHB, focussed on three specific areas as described in the methods section.

Table 3. Most common diagnoses for admissions to the HRBC

Diagnosis	Count and Percentage
Schizophrenia/Psychosis	129 (34%)
Bipolar Affective Disorder	54 (14%)
Major Depressive Episode	43 (11%)
Schizoaffective Disorder	41 (10.5%)
Psychotic Disorder due to drug use	31 (8%)

Table 4. Presentations of tāngata whai ora to the Emergency department by age group and gender, Waikato DHB, April 2018 – March 2019

Age group	Female	Male	Total
Under 18 years	174	91	265
18-24 years	268	196	464
25-64 years	406	385	791
65 years and over	30	37	67
Total	878	709	1,587

Source: Ministry of Health, PRIMHD extract dated 9 October 2019.

Tāngata Whai ora with Subclinical or Mild HoNOS Scores

Further analysis of this group of admissions indicated that their diagnosis prevalence was consistent with the general inpatient population (Oakley Browne et al 2006). It was clear that this small group of 26 tāngata whai ora was not homogenous and could be divided into two further sub-groups: one which had short admissions of two weeks or less (17 people, 65%) and another group which had extended admissions of several weeks or longer (9 people, 35%). A file review was completed for this group of tāngata whai ora to find more detail about their admissions and the consistent theme was that these admissions were related to socially-driven issues such as a lack of accommodation, disputes with whānau and a lack of money for basics such as food. Interestingly, all of this group had also had admissions at other times that were primarily due to a deterioration in their mental health. This data indicates that this group is at risk of admission at different times for either or both of a

deterioration in their mental health and socially-driven issues, which suggests that they require more intensive follow-up by services to prevent both causes of admission for them.

Tāngata Whai ora with 10+ contacts: Comparative Group

A comparative analysis divided tāngata whai ora who had had 10 or more face-to-face contacts on the basis of whether they had had an admission or remained in the community. There was only one significant difference noted in the data from this analysis, which related to the average length of time of a tāngata whai ora’s face-to-face contact. For tāngata whai ora who had remained in the community, they were significantly more likely to have had appointments of an hour or longer whereas tāngata whai ora who were admitted were significantly more likely to have had appointments which were under an hour. These differences were statistically significant at a 95 percent confidence interval (See Figure 1). This is based on a T test for the difference of the 2 proportions.

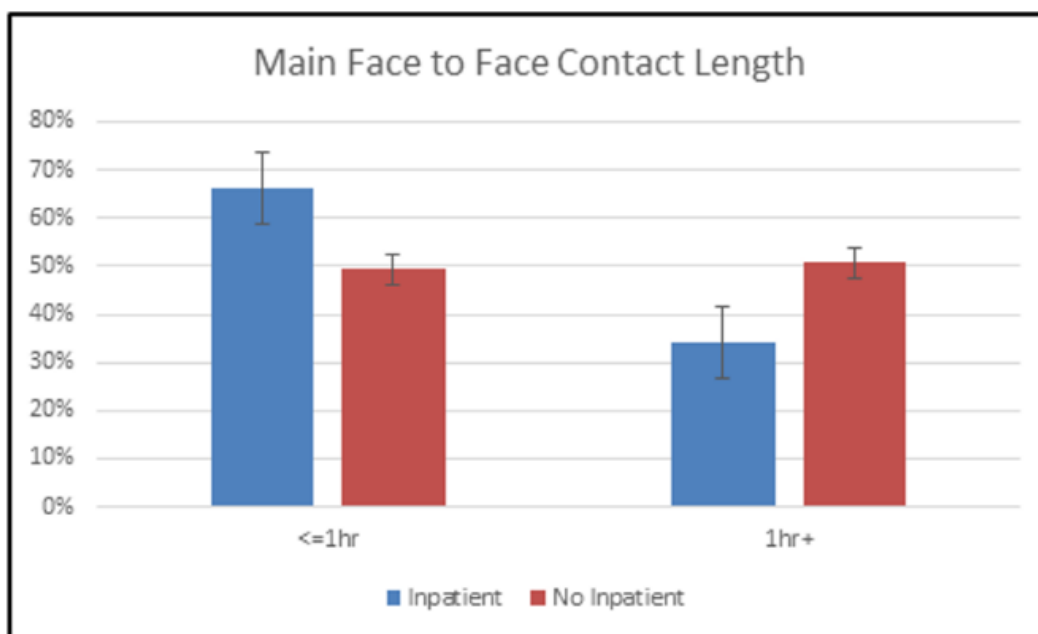


Figure 1. Main face to face contact length for tāngata whai ora with 10 or more contacts in a three-month period

(Source: Ministry of Health, PRIMHD extract dated 9 October 2019).

Emergency department Data

Further analysis on data relating to the ED attendance examined the year from April 2018 to March 2019. One finding was that 28 percent of attendances were by women under 25 years of age who attended on at least one occasion (Table 4). This group was significantly overrepresented as they represent only 18 percent of the population.

An analysis of the language used to describe these attendances found that staff had frequently used words like “harm”, “suicide”, “od” and “overdose” to describe the presenting problem. This data is summarised in Table 5.

Table 5. Under 25 female visiting ED, Presenting problems free text, count of key work search, April 2017 – March 2018

Key Word	Number of Visits
Suicide	233
Harm	156
OD	174
Overdose	24

Note: Tāngata whai ora can have more than one visit. Source: Waikato DHB emergency department database.

A question at this point was whether this finding was a Waikato only anomaly or similar to other parts of New Zealand. A further analysis discovered that this was consistent with the rest of New Zealand where women under 25 years constitute 26 percent of all mental health ED presentations and yet are only 16 percent of the population (Table 6).

A further finding was that 74 percent of tāngata whai ora who attended the emergency department for mental health related issues went on to have some form of contact, often regular, with mental health and addiction services within three months of their ED visit.

DISCUSSION

The over-representation of Māori in the HRBC over the timeframe of the data collection is a reminder of how significant this issue is in the Waikato. This finding further reinforces the need for the ongoing effort being made by the Waikato DHB and its partner organisations to change the delivery of services to better meet the needs of Māori in both the preventative and treatment phases as indicated in the national health strategy (MoH, 2018). A revisiting of similar data over time will help to establish whether the changes made have led to a shift in the numbers of Māori being admitted to the inpatient setting. This data also fits with what is known about the over-representation of Māori in mental health services in New Zealand in general, which is an important backdrop to this Waikato-focussed data (MoH, 2019a).

That the majority of individuals who were admitted to HRBC were moderately or severely unwell is an expected finding utilising HoNOS (Wing et al, 1998) but less so the small group admitted who had presentations that were mild or subclinical in nature, based on index of severity (Te Pou, 2019). This group of tāngata whai ora appear to have been admitted for issues relating to social need, for example, homelessness, which have proved challenging to resolve with the result being extended stays in an inpatient setting, which is not required on the basis of their mental health presentation. Finding new ways to assist this group to avoid some of the socially-based issues that can arise for them or alternatives to an inpatient setting if they do arise has also been a focus of the Waikato DHB but comes with significant challenges for all involved because of the complexity of presentations. Again, it is important to note that the vast majority of individuals in this group were Māori and therefore that solutions to this issue might well come with a Māori focus or lens being applied.

Given that the vast majority of individuals admitted into HRBC were known to local mental health services, predominantly the DHB, and had face-to-face contact prior to admission suggests that there is scope to reduce the rate of admissions. This finding connects well with numerous recent reports which have made clear there needs to be a greater focus nationally and locally on

Table 6. Percentage of people who had an ED visit and percentage of the population

		Waikato DHB	all DHBs
Percentage of people who had an ED visit ¹	Under 25yrs females	28%	26%
	Under 25yrs males	18%	16%
Percentage of the population ²	Under 25yrs females	17%	16%
	Under 25yrs males	18%	17%

¹People who saw an ED mental health/addiction clinician between April 2018–March 2019

²Usual resident population from 2018 census.

Sources: Statistics New Zealand, 2018 census of population and dwellings; Ministry of Health, PRIMHD extract dated 9 October 2019.

dedicated community services (He Ara Oranga, 2019; Mental Health Commission, 2018) that are able to focus more directly and effectively on the needs of their tāngata whai ora and whānau. The statistically significant finding that one difference between being admitted and remaining in the community for those with frequent face-to-face contacts with the service was the length of time of these contacts further reinforces the idea that there are characteristics that contribute to effective interventions that could be enhanced in any new configuration of services. It is reasonable to suggest that having more time to spend with an individual increases the likelihood that a wider range of issues can be addressed, and interventions and treatments provided in a more complete manner. This is one example of a change in the way face-to-face contacts are conducted that could contribute to a reduction in admissions.

The data from ED presentations suggests that this is a place in the Waikato that individuals with mental health issues, generally crises, frequently present and often on more than one occasion. There is evidence that mental health presentations are generally increasing to ED and that waiting times are increasing (Australasian college of emergency medicine 2019). These presentations often will then lead to individuals engaging with services on an ongoing basis, which suggests that their presenting issues require more than can be provided in an ED setting (Gibbs 2018). In particular, young women under the age of 25, are overrepresented and presenting with mental health crises. This data appears consistent with overseas data and research (Hall et al 2019). Although individuals do receive the immediate treatment they require when they present to ED, it is clearly not a setting in which the provision of a more multi-disciplinary and holistic set of interventions can occur. Encouraging people to utilise existing services or investing in the development of new services away from ED requires a clinical understanding of what the data is indicating but also an understanding of the wider social context that leads to people, often young women, presenting at ED. Of further interest is that this finding for young women appears to be consistent across New Zealand and therefore points again to wider issues

that apply nationally and may therefore need consideration at both a local and national level. This finding suggests that the ED is a significant access point for mental health presentations and that the interventions provided there are insufficient to prevent someone from needing to access further services in the following three months. It is difficult to be clear whether this finding is indicative of individuals in distress not knowing where else to attend or whether the ED is seen as a more deliberate choice and therefore a gateway into mental health and addiction services.

There are several limitations of this research, chief of which is the difficulty in knowing whether the timeframes chosen, although carefully considered, may or may not have been representative of a longer timeframe of admissions. This limitation needs to be balanced against the challenges for the project group in being able to manage and analyse a larger data set and also that no particular anomalies in the data were noted by clinical staff in the analysis that was presented back to them.

It is difficult to be sure whether most of the data presented in this study is statistically significant because the design of the study means that creating a control group was essentially impossible. This limitation is linked to the study's reliance of PRIMHD and patient management system data. However, to collect the volume of data required to complete a similar study by other means is essentially impossible given available resourcing, which means that this is a limitation that has to be acknowledged and accepted when considering the findings of the study.

Conclusion

This case study has developed a greater understanding of Waikato DHB inpatient data using a combination of PRIMHD and the patient management system data. Examining data from before, during and after individuals' admissions has given the DHB greater knowledge about the potential points at which clinicians can intervene to effect better outcomes for tāngata whai ora. This data analysis process could be replicated by other DHBs and has the potential to offer them the same useful insights into their tāngata whai ora and their needs.

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