

**PORQUE ADOLESCENTES
PERMANECEM NO SOL QUANDO
SABEM ESTAR EM RISCO?
CONTEXTUALIZANDO A
INCONSISTÊNCIA ENTRE
“ATTITUDE-BEHAVIOR”
E O “VIÉS OTIMISTA” COMO
COMPORTAMENTO VERBAL¹**

**WHY DO ADOLESCENTS LIE IN THE
SUN WHEN THEY KNOW IT IS RISKY?
CONTEXTUALIZING THE
“ATTITUDE-BEHAVIOR” GAP AND THE
“OPTIMISTIC BIAS” AS VERBAL BEHAVIOR²**

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RESUMO: Essa pesquisa utilizou análise do discurso e análise do comportamento para analisar a fala de adolescentes do sexo feminino sobre bronzear e exposição ao sol para contextualizar dois processos cognitivos (a inconsistência entre “*attitude-behavior*” e o viés otimista) como estratégias nas conversas sociais. Trinta adolescentes do sexo feminino demonstraram conhecimento de ambos os riscos da exposição solar e quais eram os comportamentos apropriados para se expor ao sol com segurança, ainda que elas não agissem dessa forma. As conversas delas mostravam algumas estratégias verbais similares às estratégias de Coupland Holmes e Coupland (1998), contudo eram dadas poucas justificativas ou desculpas para as incoerências entre “*attitudes*” e comportamentos. Isso sugere que esse comportamento não era devido ao “viés cognitivo”, mas ao contexto social. Nesse estudo não foram solicitados pelos pesquisadores explicações pelas incoerências, como foi feito em estudo anterior, por haver amigas das pesquisadas presentes que poderiam questionar ou rir de qualquer tentativa de justificar a discrepância entre suas atitudes e comportamentos. O “viés otimista” e outras partes do seu discurso mostraram ser devidos à alternância estratégica entre utilizar casos específicos (em geral usando elas mesmas) ou casos mais gerais (o que a sociedade



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considera bom). São discutidas as implicações e vantagens de se re-contextualizar o "processo cognitivo" como comportamento verbal observável. No nível prático, essa pesquisa ajuda a compreender porque adolescentes e também outras populações concordam ou sabem que existem riscos a saúde em alguns comportamentos e ainda assim apresentam esses comportamentos de risco.

PALAVRAS-CHAVE: Comportamento verbal, Análise do discurso, "attitude" e comportamento, Comportamento de saúde, Comportamento contextualizador, Vieses cognitivos, Viés otimista.

ABSTRACT: This research used a discursive or behavioral analysis of adolescent females talking about tanning and sun exposure to contextualize two 'cognitive processes' (attitude-behavior inconsistencies and the 'optimistic bias') in terms of strategic social conversations. Thirty adolescent females demonstrated knowledge of both the risks of sun exposure and appropriate sun protective behavior, even though they were not acting appropriately. Their conversations showed some similar verbal strategies to those of Coupland, Holmes and Coupland (1998) but there were fewer justifications or excuses given for the inconsistencies between attitude and behavior. It was suggested that this was not due to 'cognitive biases' but due to the social context of not being prompted by the interviews as in the previous study, and from having friends present who might challenge or laugh at any attempt to justify their attitude-behavior gap. The 'optimistic bias' and other parts of their discourse were shown to be due to strategically switching between using either specific cases (usually themselves) or general cases (what is good for 'society'). The implications and advantages of re-contextualizing 'cognitive processes' as observable verbal behaviors are discussed. On a practical level, this research helps us understand why adolescents and others agree or know that there are health risks and yet carry out those risky behaviors.

KEYWORDS: Verbal behavior, Discourse analysis, Attitude and behavior, Health behavior, Contextualizing behavior, Cognitive biases, Optimistic bias.

While behavior analysis has made great progress in tackling some issues within education and youth studies, there is much of human behavior not yet adequately covered. A large part of this involves the analysis of verbal behavior, and within psychology this is currently treated as the study of 'cognition'. In this paper we wish to present a few alternative ways in which both cognition and behavior analysis can change their conceptualizations, and then illustrate this with some research on how young women talked about their behavior in the sun while simultaneously claiming that being in the sun was not safe. Similar rethinking can occur across other areas of health psychology.

Rethinking cognition

The cognitive metaphors have been criticized from several perspectives although behavior analysis has not made much progress in replacing these metaphors (EDWARDS, 1997; GUERIN, 2016a, 2017; POTTER, 1996; SKINNER, 1985; WETHERELL; POTTER, 1992). On the whole, these criticisms are not saying that the 'cognitive phenomena' do not exist, but rather, that the cognitive metaphors do not help explain or change behaviors. Measuring behavior change and then talking about this as hidden, internal 'processes', presumably in the brain, is not a helpful strategy.

The main way I will suggest to rethink cognition is to show that the 'cognitive' phenomena are verbal behavior, and cognitive measures are verbal measures which are often mistakenly taken to be 'direct' reports of 'inner' experiences. These reports in cognitive research, however, do not document the essential social context of the verbal

behavior so we can understand little about how they arise (hence they are placed into cognitive or 'inner' metaphors).

Rethinking 'cognitive' responding, therefore, requires treating cognition not as processes within the head but as verbal behaviors which are embedded in our external social context. This view is implicit in Skinner (1957) although the social contexts of verbal behavior were never explored, but is explicit in both contextual analyses (GUERIN, 2016b) and discourse analyses (EDWARDS, 1997). Many of the 'cognitive' phenomena have already been shown to depend upon their social context, as uses of language within context. These include cognitive attribution theory (EDWARDS; POTTER, 1993), cognitive biases and heuristics (GUERIN, 2016b) unconscious thinking and dreamwork (GUERIN, 2016b, 2017) and clinical dysfunctional cognitions (GUERIN, 2016b, 2017).

For this research, we wish to explore two further phenomena currently explained with cognitive metaphors within health psychology—the 'attitude-behavior gap' and the 'optimistic bias'. This will be done in the context of research showing that people found lying in the sun but who also profess that this is risky behavior, are showing a 'gap' between their cognitive attitudes or beliefs, and their actual behavior. We show how these 'gaps' arise from the social contexts in which such statements are made, not from hidden 'cognitive' processes.

The attitude-behavior gap between being in the sun and the associated risk

Melanoma is a common cancer and is a prevalent type of tumor in the 20 to 39 year old age range, with the fatality rate at approximately 200 individuals per year in New Zealand where this research was done (CANCER SOCIETY, 2001). Damage done to skin earlier in life is correlated with problems of skin cancer later, so helping adolescents to stay out of the sun will have lifetime effects. The problem is that adolescent behavior is particularly difficult to change with respect to sun exposure, as they have more time to spend outside, have a culture of beaches and surfing, and because popular magazines promote a tan as being fashionable (ARTHEY; CLARKE, 1995). In these ways, finding interventions to change the sun-exposure of adolescents is a high priority.

Most of the literature available on this topic worldwide concludes with this same finding framed in a cognitive processing model—that adolescents 'possess' the appropriate information regarding acceptable sun exposure, it is just that, unfortunately, the information does not 'get transformed' into appropriate action through decision-making (BANKS et al 1992; LEARY; JONES, 1993; MCGEE; WILLIAMS; COX; ELWOOD; BULLIARD, 1995; RICHARDS; MCGEE; KNIGHT, 2001). "Many young people remain either unaware of the link between sun exposure or skin cancer or remain unconvinced regarding the prevalence or seriousness of the problem" (JACKSON; AIKEN, 2000, p. 1393). So there is said to be a gap between cognitively knowing the dangers of a behavior or having a negative attitude to skin cancer, and processing this information so as to do something about it.

A second problem for sun risk is that people often rate their chances of getting skin cancer as less than other people. This is often described in cognitive psychology as a faulty 'optimistic bias' in processing. Miller, Ashton, McHoskey, Gimbel (1990), for example, discovered that irrespective of a participants' suntan level (whether it was light, medium or dark), an optimistic bias was evident: they all reported being less likely to develop skin cancer than others.

A social contextualization of conversation which incorporates attitudes and beliefs

Discursive, contextual and behavior analyses all treat beliefs and attitudes as

language practices which people use in conversations to justify, explain or otherwise utilize strategically, rather than as enduring “thoughts” or internal cognitive states they might have (EDWARDS, 1997; EDWARDS; POTTER, 1993; GUERIN, 1994a; 2003a, 2016b; GUERIN; FOSTER, 1994; LLOYD, 1994; POTTER, 1996; POTTER; WETHERELL, 1988; SKINNER, 1957; WETHERELL; POTTER, 1992). In this way, you do not carry out a behaviour because of your attitude or belief, but, if asked, you report an attitude or belief because it can justify, excuse, account for or explain carrying out the behavior. These language strategies are solely shaped by our audiences (cf. BEM, 1965; KANTOR, 1977; SKINNER, 1957). In this way, attitude and belief statements are strategic for consequences in (external) social conversation rather than (internal) reports or readouts of cognitive states such as ‘memory’ (GUERIN, 1994a, 2016b).

A variety of functional social outcomes for reporting statements in the form of an attitude have been suggested (GUERIN, 1994a). While attitudes are not very persuasive usually, if trying to influence someone with what you say (GUERIN, 1994a, 2004) they can easily resist challenges or criticism. In particular, statements in the form of an attitude (“I like cats”) have a social property that they can be better hedged or defended than statements put as beliefs about the world (“Cats are the best pets”). Further, as a supposed report on an internal or mental state, they have the discursive property of being difficult to monitor or refute, since you can usually claim to know your own (‘inner’) attitudes better than anyone else, and also since they are abstract (GUERIN, 1994a, 2004). Using mentalisms in our talk is a good defense against social challenges or arguments.

This brief discursive or social functional analysis is important for interventions, because what is being said is that the audiences which maintain your likes and dislikes are not necessarily the same as those maintaining your “beliefs”, nor those maintaining any relevant behavior. Whatever information is given in a public information campaign about risky sun behavior, for example, is faced with very (functionally) different audiences when later talking about this or doing the behaviors. They have different social contexts so there is no guarantee that learning the sun-risk messages perfectly will change any behavior on the beach. One might learn all about the health risks but when confronted in conversation about behaving otherwise, there are numerous verbal strategies of justifications, excuses, reasons or other conversational strategies which can be given to escape social disapproval or challenging.

Applying this brief outline to the current situation, the discursive argument is that adolescents do not sit in the sun because they have positive attitudes and beliefs towards tanning and negative attitudes towards health messages, but rather, they can say those attitudes and beliefs to people when prompted or challenged in conversation if this is strategic. Attitudes and beliefs are more like pre-emptive rehearsals of conversational defenses rather than as something we ‘have’ in our heads as individuals and ruminate over (GUERIN, 2017). So the main difference between traditional social psychological/ health-belief approaches and discursive/ behavioral approaches is that the latter looks more closely at how the ‘attitude’ and ‘belief’ statements function within conversations with different audiences.

Conversational justifications for sun exposure

In practical terms, many of the issues touched on above lead to a discursive analysis in which the social context for ‘sun talk’ must be examined more closely, preferably in a natural context. If people’s sun-talk and behavior are contradictory then we should normally expect a number of justification strategies to operate when the two are juxtaposed (GUERIN, 2004).

A study undertaken by Coupland, Holmes and Coupland (1998) highlighted the

language patterns employed by different age groups to explain their inconsistent behaviour. They interviewed 161 individuals on or near beaches in both Wales and New Zealand over the summers of 1994 and 1995. The most common finding was that “many individuals showed internal variation in that they discursively negotiated stances which privileged body culture over health values” (COUPLAND et al, 1998, p. 699). That is to say, despite their relatively high level of knowledge regarding the associated risks with sunbathing they still displayed “many pragmatic resources which allowed them, in their talk, to qualify, undermine and resist dominant health promotional discourse” (COUPLAND et al, 1998, p. 699).

From the data gathered, COUPLAND et al (1998) suggested seven different categories of pragmatic strategies employed by participants to justify their inconsistencies. The first category was compliant safe avoidance, and was used by those who constructed “an identity of well-balanced, sensible, responsible adults, motivated by safety and health rather than by body culture and hedonism” (COUPLAND et al, 1998, p. 704). The second category was entitled compliant 'safe' use; it was used by participants who disclosed appropriate information regarding the effects of ultra-violet rays yet still believed that it was possible to sunbathe in a safe way. The third self-excluding use category referred to individuals who reported adequate levels of information regarding the effects the sun can have yet they often indulged in sun use and opted to ignore the sun exposure advice that they possessed because a suntan was of great importance to them. The fourth category self-excluding avoidance included mostly older individuals who possessed appropriate sun use knowledge yet did not feel it was of too greater importance to themselves due to their age, and focused more in their stories on their children and grandchildren.

The fifth mitigated body project tanning category encompassed the talk by participants who acknowledged that tanning was bad for their health but who still felt that the aesthetic beauty of a tan was of more importance than their long-term health. The sixth effortless tanning category included those individuals who claimed a tan as a result of another outdoor activity. “These individuals say that they 'just picked up' a tan, implying that they were absolved from potential accusations of irresponsible behaviour” (COUPLAND et al, 1998, p. 711). The final hedonistic, non-compliant tanning category encompassed the vast number of participants who appeared to understand the current sun exposure health advice but just stated explicitly that they valued the short-term aesthetic beauty of a tanned body.

The conversational context for the 'optimistic bias'

The 'optimistic bias' is another verbal strategy for situations in which reported attitudes and behavior do not match; in the present case, that most people report being less likely to develop skin cancer than others. While such inconsistencies have been used to support notions of 'biased cognitive processing' and the like (TAYLOR; BROWN, 1988) a discursive interpretation rests on the different conversational properties between general/abstract talking and specific/concrete talking (GUERIN, 2016b). That is, the differences labeled as 'optimistic biases' arise because of the different conversational (social) outcomes when using general or abstract statements on the one hand, and specific or concrete statements on the other.

There is one study showing this point with a common optimistic bias found in road traffic safety research—that the majority of people report driving more safely than the average person (GUERIN, 1994b). But in the research on driving safety, such biases occurred most strongly when comparing a single specific person to a large group of people, as when a person answers questions about their own (specific) driving safety compared to 'everyone else' or 'an average person' (general or abstract). The discursive property is how people can

conversationally defend themselves for rating themselves as higher in driving safety than an 'average' person. The argument made (GUERIN, 1994b) was that an individual knows their own driving record better than others do, so they can hedge (autoclitics) responsibility if necessary (e. g., "I haven't had any real accidents", "only a small dent"). On the other hand, we all know that the driving of the total population contains many thousands of accidents and many examples of poor driving, so any fault in driving for the individual can also be hedged against the population's obvious poor record. One case is specific with few or no accidents, and the other is abstract with many thousands of accidents. But the discursive point is that this is not a faulty calculation or a cognitive processing bias but arises from how the statements are strategically defended in conversations with real social context.

Applying this now to the present case of bathing in the sun, the same social property occurs as for the driving example: there are very different conversational consequences and hedging available between specific comments about oneself and general comments about an amorphous 'average person' in the sun or, in this research, "New Zealand society". The point is that general and specific statements typically arise under very different conversational contexts and have very different conversational consequences. Assenting to a statement that sun exposure is an important issue for all New Zealand probably has little or no control over more specific statements about one's own behavior. This means that there is no reason why one should expect them to match or to be consistent (GUERIN, 2003a).

METHOD

To pursue examples of these different ideas, interviews were conducted with adolescent females in the sun on a beach, mostly with friends present. The interviews were conducted by a female interviewer, younger than the one in Coupland et al (1998) and she asked similar questions to Coupland et al, plus others about knowledge and attitudes towards sun exposure. The idea was to see how people talked about sun exposure and the associated risks while lying on a beach; what were the verbal strategies they utilized.

Participants

Thirty female participants were randomly approached on Wainui beach, located in the small North Island West Coast township of Raglan approximately 40 minutes from Hamilton, New Zealand. The participants were approached unsystematically and asked to participate, provided they were between 13 to 19 years old and female. No preference was given to ethnicity or cultural background. All those approached were given the right to refuse to answer any questions at any stage of the interview and were assured their answers would remain anonymous.

Data collection procedures

Fine warm weather was an important consideration when choosing an appropriate day to collect data, as was the day of the week. Saturday or Sunday proved to be most suitable days given that many prospective participants within this age group would have been attending school during the week. Interviews were conducted in the middle of the day. The interviewer was clothed in accordance to what has been deemed by The Cancer Society as appropriate dress for the summer weather.

Each participant was asked to answer the same five questions, which formed a short conversational schedule given very informally so other talk could be encouraged. All

interviews were audio taped with consent and participants were assured that the audiotapes would not be heard by others. The presence of peers when the questions were being answered might be seen in one way as providing pressure to give socially desirable answers. The other consideration, however, was that we would be recording more realistic talk when given in front of peers and subject to their criticism and humor. From a discursive point of view, this gives more realism to the conversations than conducting formal interviews in an office.

The five questions asked by the researcher were derived from the work of Coupland, Holmes and Coupland (1998) and the review given above:

1. Is it important for you to get a tan?
2. Are you aware of health issues related to sun exposure?
3. What is the best advice you know about sunbathing and tanning?
4. Do you follow that advice?
5. Do you think excessive sun exposure and tanning is an issue in New Zealand?

These were brought up informally in the conversation and the wording varied to match the local context. Each participant was asked all five questions. For example, Question 3 could have been asked in context as, What is the best health advice you have heard? or as What piece of sun exposure advice stands out in your mind? In the context of the conversations about sun and tanning these would elicit the same information. Likewise, while Question 5 might seem a leading question as written, it made sense in the conversation context that usually preceded.

After each of the interviews, contextual notes were made about the interview including the attire of the participant, the individual's approximate age, the time that the interviews took place, and whether they were by themselves or with others. After all 30 interviews were finished they were transcribed with relevant notes being matched to the appropriate interview.

RESULTS

The Five Main Questions

How important is it to have a tan? The responses generated from this question could be grouped into three categories, those individuals who felt it was *very important* to have a tan, those who felt it was *fairly important*, and those who stated it was not important to them at all. Eight participants indicated clearly to the researcher that it was very important to them that they appeared tanned, particularly in the summer months, and these examples are typical:

Um... yeah I'd say pretty important, yeah I'd say important
I love having a tan... I would use a sunbed in winter if I could afford it haha...
Ah I don't care in winter but in summer it's important
From the sun? Very important

All of these participants with one exception were dressed in bikinis (the one exception was dressed in a singlet style top and skirt).

Twelve participants indicated that having a tan was *fairly important* to them; the majority of these participants were dressed in an adequate manner given their attitudes. Most were wearing shorts and t-shirts or singlet; or shorts and a bikini top; or bikini bottoms and singlet. A number of these participants made use of hedging (autoclitic) properties in their statements (GUERIN, 2016b) unlike the first group, using statements such as 'kind of and 'you know':

For me... um I suppose I like having a tan, yeah I suppose it is kinda important

No, oh yeah, I suppose yeah

Oh I suppose to be honest I do like having a tan but at the same time I am pretty good with applying sunscreen and stuff so I ummm don't really get badly burnt

The remaining ten participants indicated with slightly different words that tanning was not important to them. The majority of these participant's attitudes were reflected in their chosen attire; most were wearing shorts, singlet and a number were also wearing hats and sunglasses. One was under an umbrella.

It's not heaps important, I mean I like to have one but yeah, whatever

Not really, nah, not very important... I suppose I sound stupid saying that cause I've gotta tan! Haha, but I didn't try and get it, I suppose ya get that when you are outside heaps Not very... cause I don't tan at all

What is important to notice here, however is that despite some hedging all but one of the participants did not immediately justify their pro or anti-tanning stance. The one exception, who was sitting away from the crowds with her two dogs felt compelled to make clear that sitting in the sun was not something that she did often and was quite abrupt in her manner.

Awareness of health issues related to sun exposure. All thirty participants indicated good knowledge regarding the risks of sun exposure. Responses to the question ranged from a simple 'yip' or 'yeah' through to more detailed responses. The most common method was through the highly publicized *slip slop slap* campaign—slip on a t-shirt, slop on sunscreen, and slap on a hat—promoted in the media with a cartoon pig character.

Like cancer and stuff? Yeah I am aware...

Yeah how couldn't you be, I mean it is really advertised isn't it... there is the whole pig 'slip, slop, slap' campaign

Yeah I am, and I do follow them, even though I am brown I still umm wear heaps of sunscreen and stuff... I mean I wear a hat and sunnies and things like that

Interviewer: Are you aware of the issues related to sun exposure?

Respondent: yeah I most certainly am. I follow it kinda closely cause it is a topic that I am interested in... I am kinda scared by the fact that the damage I did to myself as a younger kid could have a bad effect in the future... you know what I mean! I am trying to make up for it now!

What is the best advice you know about sunbathing and tanning and do you follow that advice? The overwhelming response to the first of these two questions about the best advice participants had heard regarding protecting yourself from the sun was the '*slip slop slap*' slogan. The importance of wearing sunscreen was repeated by the majority of participants and messages about avoiding the sun at peak times were also discussed by some. Every participant could repeat some piece of advice.

... I suppose wear lots of sunscreen

You mean things like skin cancer and melanoma?

Um not to lay about in the sun in the middle of the day... I think it is between 10 and 4 that you should be careful... which is real hard cause that's when you want to be in the sun! Just use lots of sunscreen I suppose

mmm wear sunscreen and... don't go on sunbeds and try and keep out of the sun if you don't need to be in the sun

... just follow the slip, slop, slap I suppose

Interviewer: What is the best advice regarding health and sun exposure that you have heard?

Respondent: well for a start avoid the sun in peak times but if you can't then at least slip slop slap. Also it is important to avoid things like sun beds and stuff cause this is just adding to your chance of getting some kind of skin cancer... I find it hard to believe

*people still use them knowing
what we now know!*

When the second of these questions asked "Do you follow that advice", there were mixed responses. Twelve of participants indicated that they did follow the advice they had previously given. While some of these participants simply indicated that 'yes', that they try their best to follow the advice, a few gave more in-depth answers:

Yeah I do... I mean I am sitting on the beach I know that but I have a hat on and am not in a bikini top or anything. I mean I have lots of sunscreen on

Yeah I am always putting sunscreen on

Yes I do, I don't do this sitting in the sun thing very often, this is a once off situation

To a certain extent...if I am honest...well I mean I am in the sun right now and it is what... 12.30?? I mean this is peak time...but I am also covered up pretty good, under an umbrella and wearing sunscreen, so yeah I think I do ok

Seven participants outright indicated that they did not follow this advice, and importantly, none of these seven appeared to feel compelled to justify their responses to the researcher:

No because I like to be brown

No not really, I care too much about looking good

The remaining participants responded to this question using a variety of hedging (autoclitic) techniques. Responses included statements such as:

Yeah most of the time

Yeah in a way... I mean I don't sunbathe hard out and stuff

Yeah sometimes... when I remember

No, haha, but I do wear sunscreen when I'm out in the sun

Haha, yeah usually, usually I do

Interviewer: *and what's the best advice you have about lessening the effects?*

Respondent: *mmm wear sunscreen and... don't go on sun beds and try keep out of the sun if you don't need to be in the sun*

Interviewer: *and do you follow this advice?*

Respondent: *no, not at all*

Interviewer: *why?*

Respondent: *cause I like to get brown*

Is sun exposure an issue in New Zealand? As predicted, regardless of their responses above, all the participants indicated that excessive sun exposure was an issue in New Zealand society (general/ abstract). Responses ranged from simple 'yes it is' to more definitive statements, and the following quotes give a range of these:

Yeah it is but I don't think people my age really care, I suppose they think it won't happen to them

Yeah I do, I mean I have had a family member who um, had cancer, not skin cancer, but another type and it is not a very nice thing to go through. I mean I wouldn't wish that on anyone aye

Ahhh yeah cause heaps of people go to the beach, haha

Definitely, especially as we have one of the worst ozone layers in the world... it is an issue to be aware of for all New Zealanders, I think

uhhh (pause) important in NZ... yeah I suppose... it gets pretty hot over here (laugh)

Note that the first statement makes an interesting discursive maneuver, and attributes the optimistic bias to others, showing again how this bias is used in conversation rather just than being a side-effect of faulty cognitive processing. Also note that all but two of the above statements are about the general case of other people. Only in the first two statements were the participants talking about themselves, and they were also more evasive

in their verbal strategies. We will come back to this point below for 'the optimistic bias'.

Summary. Putting all these five questions together, we can see that this adolescent sample have paid attention to health promotion material, they are mostly aware of some dangers to the extent of being able to repeat them, and they believe that this is an important issue for New Zealand society *in general*. However, for almost three quarters of them this has not changed *their own* practices and for two thirds they actively pursue a suntan. When they did talk about themselves (specific) they were strategically evasive about the importance of the issue.

Analysis of the conversational strategies

It is clear from the above that the participants 'knew' the sun-risk messages but were not matching their behavior to these, and were strategically switching in their discourse between using general and specific cases. When the interviews were analyzed more closely it was also possible to split the strategies found into the seven categories originally employed by Coupland et al (1998) although there are some differences that are worth mentioning for further work in different contexts.

Hedonistic non-compliant tanning was the category for the most participants, accounting for 9 (30%) of the interviews. The other 70% of the participants were spread unevenly through the remaining six categories with one participant fitting into each of the *effortless tanning* and the *self-excluding avoidance* categories, 3 in *compliant safe avoidance* and in *mitigated body project tanning*, 6 in *compliant safe use*, 2 for *self-excluding use*, and 5 who were not easily placed or mixed.

The fact that the most frequent category of the data collected from participants (30%) could be integrated into the *hedonistic non-compliant tanning* category was not surprising. This category was defined by Coupland et al (1998) as encompassing individuals who could "echo the standard sunburn advice quite accurately [and then] indicate either that they didn't follow it or that they followed in only in some limited respects" (COUPLAND et al, 1998, p. 712).

An important divergence here between the current data and that of the Coupland et al, study, however, was that most participants here *did not justify their positions* despite many opportunities and despite contradicting what they themselves reported as important. Those few who did give some explanation of the contradiction did not use the elaborate strategies found in the earlier study:

Interviewer: *What is the best health advice you have heard?*

Respondent: *Like what do you mean?*

Interviewer: *In regards to like protecting yourself from the sun?*

Respondent: *Well just cover up I suppose and if you burn then wear sunscreen*

Interviewer: *And do you follow this advice?*

Respondent: *I don't wear sunscreen cause I don't burn.*

Interviewer: *What piece of sun exposure advice stands out in your mind?*

Respondent: *That whole pig campaign on TV, you know, the slip slop slap one*

Interviewer: *So you do follow this sun exposure advice – like the whole slip slop slap thing in regards to your son, just not yourself...*

Respondent: *yeah that's right. I mean I just love having a tan, plus I suppose I have the whole 'it won't happen to me' sorta attitude*

To explain this we need to look at the social context in more detail. It can be suggested that Coupland et al (1998) explicitly *prompted or challenged* individuals as to 'why' they chose their position, yet, in the more naturalistic conversational conditions here, it may have been that individuals did not feel compelled to explain because they were not explicitly

asked. It could also be that most here were responding in front of friends who might have laughed at or contradicted their futile attempts at justification. This is an important finding because within the current research the vast majority of the participants who fitted into the *hedonistic non-compliant tanning* category did not appear to worry if they contradicted themselves with their position regarding tanning and sun exposure attitudes. Coupland et al.'s method might have prompted more of these discursive strategies than occur in more natural conversations.

It is also not entirely surprising that so few of the participants fitted into the *effortless tanning* and *self-avoidance tanning* categories. According to previous research, the function of how tanning is achieved differs for males and females. Past research has illustrated that while females deliberately and intentionally expose themselves to sun for a tan, males tan as a secondary function of another activity, whether this be outdoor employment or sporting activities for example (JACKSON; AIKEN, 2000). If this data is indeed correct then it would explain why only one out of the thirty female participants interviewed fitted the category of *effortless tanning*. This would also certainly be an interesting topic for future research.

The responses given by several older participants in the Coupland et al (1998) research allowed for the creation of the *self-excluding avoidance* category. This category encompassed individuals who “either saw themselves as too old to be concerned with the body project of tanning or that their knowledge of self-protection measures was more appropriately targeted at their children or grandchildren” (COUPLAND et al, 1998, p. 707). Due to the youth of the present sample, it is not surprising that *self-excluding avoidance* was rarely used.

The “optimistic bias” and discursive generality

The data collected from these participants only indirectly support the findings of Miller et al (1990) that an 'optimistic bias' is evident when individuals are asked to rate their chances of developing skin cancer. Optimistic bias is commonly displayed within the adolescent age group when *prompted* but there were only a few examples arising spontaneously here because participants were not asked directly to rate their chances but provided more naturalistic talk on the topic in a different social context. One was quoted earlier (*plus I suppose I have the whole it won't happen to me sorta attitude*), and another below when the participant was directly *prompted* about her level of knowledge regarding risks associated with excessive levels of sun exposure:

Interviewer: *are you aware of the risks relating to excessive sun exposure?*

Respondent: *like cancer and stuff, yeah I am aware but I don't need to worry about that till I am older I reckon, I am still young so it won't get me...haha I'll probably get it now just in spite of what I have said...haha*

This example is interesting because after giving an “optimistic bias” she goes on to counter it as a peer might respond (*haha I'll probably get it now just in spite of what I have said*), suggesting again that we are not dealing with cognitive attitudes and beliefs being reported but with a broader discourse among social groups and the media set in context. Her reports are pre-emptive rehearsals of responses and challenges that might come from peers, which she answers herself and then laughs. This fits well with the contextual or behavioral analysis of Guerin (1994b, 2016b)

Despite only a few explicit examples of an optimistic bias, we saw above a great deal occurring *implicitly* when we compared participants talking about themselves (specific) and talking about the population or society (general)—that is, when comparing talk about specific and abstract categories. This comes about because all participants agreed that it was

an issue in New Zealand society (*general*) but very few then extrapolated to themselves (*specific*) regarding this answer, and their talk around this issue stayed with *people in general*. The exception was this participant, one of the few to justify their inconsistencies but this was again following a strong prompt of the inherent contradictions in what they said:

Interviewer: *what is the best advice you have heard regarding protecting yourself from the sun?*

Respondent: *Just to apply sunscreen and cover up, protect yourself from the sun.*

Interviewer: *And do you follow this advice?*

Respondent: *Yes I do.* [While not doing this in reality]

Interviewer: *Do you think sun exposure is an important issue in New Zealand?*

Respondent: *Yes it is. I don't do this sitting in the sun thing very often; this is a once off situation*

While all the participants answered that excessive sun exposure is an important issue in New Zealand, only about a third of them were displaying appropriate sun safety behavioral intentions (for example, wearing appropriate outfits). The remaining 70% of the sample contradicted themselves by stating sun exposure was an important issue while at the same time saying and displaying in their appearance that they did not adhere to the health promotional discourse often, if at all.

So we can perhaps detect a strong implied '*optimistic bias*'; people thought sun was an issue in general but did not protect themselves, but there was little in the discourses themselves directly related to this. This probably reflects that contradictions were not brought into conflict by the interviewer (there were no consequences) and the participants might have avoided trying to justify their inconsistencies with friends present. If this analysis is correct then we would expect more use of the optimistic bias as a discursive strategy when justifications and conversational repairs are being given through more direct prompting and pointing out of contradictions. This is important because the practical implication is that interventions targeting such optimism need to do so within a conversational context of prompting and giving justifications, if the biased optimism is to be tackled.

DISCUSSION

There were some interesting results from this research which can inform future interventions for the health of adolescents. The main finding coming from this approach was that there is a range of language strategies which adolescent females use when talking about sun protection but these are heavily dependent upon the social context rather than mechanisms of cognitive processing. The current context we used produced inconsistencies between the talk and the practice of sun protection but these were not justified as much as occurred in Coupland et al (1998). Our best guess for this is that we did not prompt the inconsistencies and ask why they did not cover up, as Coupland et al, did explicitly, but a few other reasons for these differences were also suggested which will require more research. Following this up to find out more about the conditions for participants providing justifications is important because interventions to increase sun protection need to anticipate and utilize the justifications that are likely to be given (although, to say it again, these will differ across contexts). For example, the present group produced many forms of hedging when they occasionally moved into areas of conversation which their peers might challenge, even though the interviewer did not challenge them explicitly.

The issue of interviewer prompting came up both in justifying inconsistencies and also for examining the '*optimistic bias*'. The '*optimistic bias*' might therefore only appear when prompted, or the implicit contradictions pointed out and challenged, as has been documented for previous research on attributions (e.g. ANTAKI; NAJI, 1987; AUKRUS;

SNOW, 1998; BEALS, 1993; DUNN; MUNN, 1987).

This research also found some evidence that talk about *specific* people (this was usually themselves) and talk about people in *general* produced different discourses, and several strategies or discursive resources, such as the use of the 'optimistic bias', changed depending upon the social context. From this research and that of Guerin (1994b) we suggest that the optimistic bias differences occur because of the different discursive properties of general versus specific talk, not because of an inherent 'cognitive' bias. That is, the optimistic bias is used *strategically* in social conversation.

Finally, the other result we think is important is that the talk (which includes thinking; GUERIN, 2016b) around sun protection is part of wider discourses involving peers, family, media, and others. Just putting a message forward in health promotion that sun tanning is likely to lead to skin cancer, however true this might be, can easily be hedged, countered, challenged, mocked, and ridiculed within the different social audiences of adolescents.

In fact, it could be that adolescent are very resistant to health promotion messages, not just because of the reasons given in the Introduction, but also because they have many discursive resources which allow them avoid changing within their groups, or else because they do not have much contact with other groups (or even avoid contact) who might provide new conversational strategies and challenges. New interventions to counter these discourses need to take all the points found here into account, as well as what we know from other research (GUERIN, 2003b, 2005).

The point, then, is that health messages are publicized in the media but these messages are thrust into social contexts of vastly competing discourses and practices, and the truth of these discourses is no guarantee for acceptance or change. The more we learn, from this study, from Coupland et al, and from future research into these 'sun talk' discourses, the better we can plan for truly strategic and pre-emptive messages to change how adolescents and others protect themselves from skin damage.

For health interventions, therefore, we need to challenge the discursive resources and strategies available within communities and groups, and not assume health promotion messages will be read and accepted merely because they are true. We cannot produce better interventions by focusing only on the words, as if they held some inherent power to convince. The power of words is purely in the short- and long-term consequences from social relationships, whether these are with strangers, friends or family. The vicissitudes of 'attitudes', 'beliefs' and 'cognitions' are really the vicissitudes of social relationship strategies.

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