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Tractors, Talk, Mindset, Mantras, Detachment, and Distraction: A Mixed-Methods Investigation of Coping Strategies Used by Farmers in Canada

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Abstract: Characterized by high unpredictability and little control, everyday factors make farming one of the most stressful occupations globally. Indeed, farmers around the world and in Canada score more severely on measures of perceived stress and negative mental health outcomes like anxiety and depression, and suicide ideation among farmers is disproportionately high. Research investigating effective ways of coping with everyday stress within the time and workload constraints of farming is scarce. This mixed-methods study explores the ways farmers in Ontario and Canada cope with daily farming stressors. Qualitative data from 75 in-depth interviews with farmers and industry professionals in Ontario, Canada, were analyzed to investigate farming-specific coping strategies within the farming context. Quantitative survey responses from 1167 farmers across Canada to the 14-item Ways of Coping measure developed for the Canadian Community Health Survey Cycle 1.2 were analyzed to determine which coping strategies Canadian farmers use most in relation to the representative national population. The ways of coping endorsed by farmers are presented in this paper, including adaptations of positive coping strategies in the farming context. The descriptions of positive and negative coping strategies used provide direction for effective avenues to reduce stress and boost farmers' well-being.

Keywords: coping; stressor; agriculture; qualitative; interview; mixed-methods; mental health



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1. Introduction

Farming is widely recognized as a highly stressful occupation [1]. Research investigating farmers' mental health around the globe consistently reports high levels of psychosocial stress among farmers compared to other occupations [2–5]. In Canada, farmers have scored more severely on measures of perceived stress compared to the general population [6,7]. High perceived stress has negative impacts on farmers' mental well-being, like more severe anxiety and depression scores [8,9], but also on animal welfare and productivity [10].

A variety of day-to-day occupational stressors exist for farmers, like unpredictability of markets, unexpected livestock disease and loss, dependency on the weather, machinery breakdown, etc. [11–13]. Farmers also face more extreme stressful events, like catastrophic livestock loss due to disease outbreaks [14], as well as natural disasters and extreme weather events that result in mass crop loss [15], which are increasingly common worldwide [16,17]. Thus, it is especially important to build farmers' capacities to handle daily stress so that they have the mental resources to overcome unexpected highly stressful individual events.

The efforts that people make to manage their stress are referred to as coping strategies [18]. Many different coping typologies have been generated as coping research evolves. For example, Connor and Carver-Smith classified coping strategies as problem-focused (aimed at reducing/changing the source of stress itself) or emotion-focused (minimizing distress experienced) [19]. Roth and Cohen classified coping strategies as approach (directly addressing the threat) and avoidance (efforts directed away from the threat) [20]. Overall, there is evidence that some coping strategies are generally conducive to mental well-being

(e.g., problem solving, positive mental reframing, seeking social support, and exercise) [21], while others generally contribute to mental ill-being (e.g., self-soothing through substance use, and avoiding thinking or talking about the situation with others) [22,23]. The categories of coping strategies associated with positive mental health outcomes have been called positive or adaptive coping strategies, and those associated with negative mental health outcomes are called negative or maladaptive coping strategies [24]. However, a coping strategy can be both positive and negative depending on the individual and context [25]. Most importantly, coping strategies can be learned, which makes them an excellent avenue to focus on when designing programs to reduce stress and boost well-being in a population [26]. Intervention studies report lasting improvements to well-being and reductions in levels of stress following coping strategy training (e.g., [27,28]).

Farming stressor research is more common than research investigating the ways in which farmers cope with occupational stress. Research on coping with larger stressful farming events, like catastrophic loss and weather extremes, is more common than studies investigating coping strategies for everyday stressors. For example, Gunn and colleagues investigated Australian farmers' stress and coping during drought in a cross-sectional survey and reported that farmers used coping strategies more often for farming-related stresses compared to non-farming-related stressors they encountered [15]. They also reported positive associations between the use of negative coping strategies like disengagement and substance use with psychological distress scores [15]. In a cross-sectional study of coping strategies among farming and ranching men in the United States conducted in 1990, Light and colleagues reported spirituality and praying as the most endorsed coping strategy for general farm stress, followed by problem solving and positive reframing [29]. Light et al. also reported low endorsement by farming men for talking about stress with friends or seeking support from others [29].

Coping among farmers is most often measured quantitatively, using coping scales developed for the general population (e.g., [15,30]). However, what would be useful is the knowledge of how farmers use coping strategies within the farming context of having little downtime, high workload, high unpredictability, and little control over many factors impacting their production [31], as avenues to improve coping with stress are not developed within these occupational constraints. Farmers may benefit from learning what strategies work for others, and future avenues to reduce stress and improve well-being among farmers may benefit from understanding how existing coping strategies have been successfully adapted for farming. Our research question was, what ways of coping do farmers use for everyday occupational stress? Hence, the objective of this study was to describe coping strategies used by farmers for daily occupational stress. We aimed to maximize our description of farmers' ways of coping by combining rich, detailed qualitative interview data with broad quantitative survey data. As clear gender differences across mental health outcomes among farmers have been reported in Canada [6,7], we also aimed to investigate ways of coping by gender using a quantitative measure.

1.1. Study Design

A mixed-methods study design was used to combine the strengths of rich, in-depth qualitative data and a wide breadth of quantitative data to explore farmers' strategies for coping with occupational stressors.

1.2. Qualitative Methods

1.2.1. Study Design and Recruitment

The qualitative methodology has been thoroughly detailed elsewhere [9,32]. Briefly, one author (BH) conducted 75 semi-structured, one-on-one, qualitative interviews in Ontario from July 2017 to May 2018 with farmers and industry professionals recommended by farmers. Participants were recruited via the email and social media networks of a farmer working group. Interviews were 45–75 min, audio recorded, professionally transcribed, and transcriptions were verified for accuracy by one researcher (BH). Participants completed a

short demographic survey before the interview began. The study protocol was approved by the University of Guelph Research Ethics Board (REB#17-02-035).

1.2.2. Discussion Guide

Participants were asked, “What sorts of things do you do to support your resilience/yourself?”, “What are your coping strategies?”, “How do you handle stress?”, and “What sorts of self-care do you practice?”.

1.2.3. Participants

Half (50%, $n = 37$) of the participants who completed a demographic survey (74/75) identified as men, and half ($n = 37$) identified as women. The age range of participants was 25–78 years old. The majority (69%, $n = 51$) of the participants identified as farmers, followed by industry professionals (19%, $n = 14$), veterinarians (8%, $n = 6$), and 1 (1.4%) each from agricultural government, academia, and agricultural journalism. Most (87%, $n = 65$) interviews were conducted in person, with the remainder conducted over the phone if participants lived >200 km from the University of Guelph.

1.2.4. Analysis

Thematic analysis, guided by Braun & Clarke’s recommendations [33,34], was used to reflect participants’ detailed descriptions of their experiences while also embracing the researchers’ influence over the analysis to answer the research questions. A combination of deductive and inductive approaches to analysis and semantic and latent coding was used [35]. The analysis consisted of six phases as follows: (a) familiarization with the data and writing familiarization notes; (b) open-coding and collaborative production of an initial unstructured codebook; (c) systematic coding of all transcripts using the codebook; (d) collaboratively generating initial themes from coded data during bi-weekly coder meetings, assisted by visual memoing; (e) developing and reviewing themes; (f) refining, defining, and naming themes, including sub-themes [33,34]. Data reliability and authenticity techniques were used, including keeping a detailed audit trail and reflexivity notes throughout the entire analysis and using a collaborative approach to enrich the analysis with multiple perspectives and interpretations of the data [36–38]. Two authors (BH and AJB) have professional ties to farming and many years of researching Canadian farmers’ mental health, two authors (BH and RT) have family ties to farming, and one author (RT) is a current farmer. Quirkos© 2.5.2 software (Quirkos, Edinburgh, UK) was used to support data organization and coding. Exemplary verbatim quotes are presented without expletives removed to maintain participants’ voices and own meanings to their experiences [35].

1.3. Quantitative Methods

1.3.1. Study Design and Recruitment

For a detailed description of the quantitative methods, see [6]. Briefly, a cross-sectional, national online survey was conducted from February to May 2021. The questionnaire was estimated to take roughly 20 min to complete and included validated measures of a variety of mental health variables, including stress, depression, anxiety, burnout, resilience, and alcohol use. Participants were recruited via agricultural organization member email listservs and social media, and were eligible to complete the questionnaire if they identified as a farmer in Canada, were over the age of 18, and could read and write in English or French. Written informed consent was obtained from all participants, and responses were collected anonymously. Incentives were provided by participants’ entering their email addresses in a separate, unconnected questionnaire that would enter them in a draw to win one of five prizes of \$200. This study protocol was approved by the Research Ethics Board at the University of Guelph (REB#21-01-001).

1.3.2. Questionnaire

To investigate the relationship between the ways of coping with gender and occupation (farming), the questionnaire included 14 questions on ways of coping from the Canadian Community Health Survey Cycle 1.2 section on coping with stress [39]. Participants were asked the following question: “People have different ways of dealing with stress. Thinking about the ways you deal with stress, please tell us how often you do each of the following:”, followed by 14 strategies (e.g., “wish the situation would go away”). The response options were as follows: often, sometimes, rarely, never, and do not know /not applicable. The “often” and “sometimes” options were grouped together and the “rarely” and “never” options were grouped together for our analysis [40]. The items covered a variety of positive (spirituality, somatic relief (exercise), problem solving) and negative (internal avoidance (e.g., blaming yourself), self-destructive behaviours (e.g., drinking alcohol), and external avoidance (e.g., avoiding others)) coping strategies.

1.3.3. Statistical Analyses

Proportions were calculated to report how often participants engaged in each coping strategy. Chi-squares were calculated to compare frequencies by gender. Statistical significance was set to $p < 0.05$. All analyses were conducted using R version 4.1.1.

2. Results

2.1. Qualitative Results

Participants described myriad means of coping, some of which were positive, like talking to others about their stress and adapting their mindset, whereas others described more negative behaviours, like social withdrawal and substance use (Figure 1).

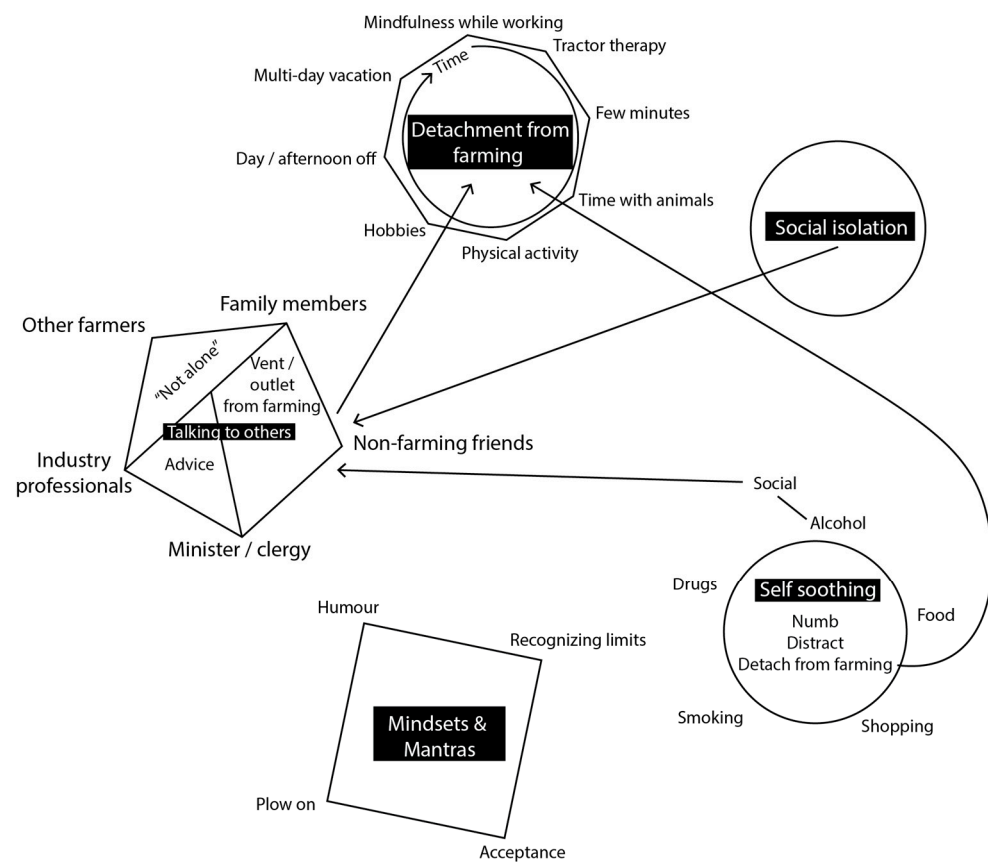


Figure 1. Overview of coping themes. The data support three positive coping themes: detachment from farming, talking to others, and mindsets and mantras; and two negative coping themes: social isolation and self-soothing.

2.1.1. Detachment from Farming—“I Think You Need to Sort of Pull Away from It—It Becomes So Integrated into Your Whole, Every Fabric of What You—Every Part of What You Do in Life, Right?”

Multi-Day Vacation—“We Went There for 10 Days and Got Away from It, as a Family”

Some farmers described taking vacations as an important way to “get a bit of perspective” in stressful times. They described not being able to relax “unless [they are] totally away from [their farm]”; as one farmer explained, “people have holidays and they just stayed home. That really doesn’t work well for a farmer. You need that time away just to get completely away from it. And that’s probably when I feel the most relaxed too”. Notably, a few farmers described needing significant time away to be able to stop worrying about the farm: “One thing, I always liked when you get to a point where you’re on vacation and you just can’t do anything about it anymore. Well then you kind of forget about home and you enjoy yourself for a while”. Farmers who took vacations described being “happy” with their workload. As one farmer explained, “We travel a lot in between crops, kind of plan our trips and in the wintertime, we go away again . . . I’m quite happy”. Another farmer explained:

“My parents said go, there’s no lambs coming, everybody’s on the ground. Go away for a weekend. So we just went to just a winter getaway. Just went for a walk, different hikes, skiing just for two days away and that really made a difference. So sometimes I think when it’s going that bad if you can [take a vacation], just taking a step back and reassessing.”

However, many farmers described an inability to leave their farm for multiple days due to a high workload and no labour coverage if they left.

Day/Afternoon Off—“Sometimes I’ll Just Throw My Husband in the Car and Say Let’s Go Get an Ice Cream Cone”

Multiple farmers explained that “taking a day hike or [a day off] really helps” because it “breaks the cycle” of working and living on the farm. As one participant described about their partner, “Something as stupid as a family birthday party, but it was enough that he shifted his mind away from farming eight days a week and had a day off to do something stupid like blow out birthday candles and touch base with our children, you know what I mean?” Many participants spent their day off with family, “I got some grand girls, three of them . . . and I’m going to Marineland on Thursday with them, but it was those kind of things are good because it totally takes you away from everything, right?” They explained that spending time with family provided additional stress relief beyond taking a day off, “we all go with a picnic and duck hunting. It’s not the number of ducks we shoot, but it’s the breakfast we have over there”.

Many farmers valued “tak[ing] off for the afternoon” or having a night out to relieve stress, such as “the occasional girls’ night and get out of the house”, “I’ll make sure we have a film night, or I’ll make sure we go out for supper” or “going out for supper but trying something a little bit different too is always kind of nice—or even going to the theatre, like the [local] theatre, that type of stuff”. “Getting off the farm” for a few hours was important to cope with stress. As one farmer explained:

“we have fudge vacations that’s what we call them. You know how fudge is like super intense. So it’s like yeah, we’re gonna take out four hours and we’re gonna go do something fun! And it could be as simple as we’re going up to the lake to walk the dog. So it costs virtually no money, or we will have a nice lunch out, but they are very compressed times.”

These farmers also emphasized how important it was to not talk about the farm during hours off, “And just having breakfast with my kids. It’s gotten sort of to a habit we now have Sunday brunch and that kind of gives us a connection time. We try not to talk about business too much but just have a good time”. As one farming woman said, “I left the [farm] store and left for three or four hours and yeah we just talked about normal stuff. So

to try to get out from under it I think that's really my saving grace right now . . . it gives me hope".

Hobbies Unrelated to Farming—"Any Kind of an Outlet Away from [the Farm] Is an Outlet That's Good"

Farmers commonly described turning to hobbies and other activities unrelated to farming as a way of coping. For example, some farmers described engaging in music or arts to "pull away from" farming and "relieve stress". Some activities included painting, playing in a band, dancing, sewing, and journaling. As one farmer described:

"I play in the pipe band but that's the purpose of going to pipe band because they bring me out of what happened that day. Pipe band practice is two hours. So it may take a half an hour, it may take an hour but by the time I'm done there I'm leaving in a better place type of thing, you know?"

These farmers likened playing music or painting to therapy: "It's a complete rest from the everyday activities. It's a release despite the fact that I was dog tired the next day and it's getting worse but it still is better—it's real therapy for me, anyway". They further described, "If [the stress is] really bad then I'll just start painting a picture or something. So that's what I do".

Other "outings" and escapes included "renovating, and we love to paint, and we love to do carpentry", getting "involved in their kids' sports", and "hunting—We deer hunt and we moose hunt, but—and coyote hunt, so in the wintertime . . . We do a little fishing in the summer and things like that".

Spending Time with Animals—"Just Go Out, and Sit, and Enjoy Them"

A few participants described "build[ing] a bond with [their] animals as helping [them] through [stressful times]", and explained that spending a few minutes "to scratch and hug them every day" resulted in a "big difference [in feelings of stress to] just go hang out with them, spend time with them . . . It's a good stress relief". As one farmer explained:

"even though you're anxious the animals have a way of pulling that anxiety, like when I'm choring they get rid of that pretty easily. So I find I'm fortunate in the animals that we have that even if I'm anxious I'll just literally I'll take a few minutes and I will sit quietly in the stall and my nephew's 4H lamb and a couple of the fall lambs they'll just come and they'll, you know, bounce around you . . . so you take time, like, I make sure to take time to sit with either my dog, the sheep, the horses. So that's how I deal with the anxieties is just to take time and breathe and to know it will work out."

Physical Activity—"I Had to Just Walk to Try and Let Go of the Stress, You Know? And It Worked. It Was Very Therapeutic"

Some farmers said that "try[ing] to get out for a walk" helps them to "blow out stress" or "relieve it". By walking they could "forget all the woes" and "just escap[e] a little bit", while others valued "walking and thinking things through". As one farmer said, "if you're thinking of stuff while you're hiking you talk it through. I used to keep everything in 'cause I never wanted to bother anybody but I found that wasn't healthy so we as a family and with my husband we do a lot of talking while you walk". Some farmers described going for a walk to appreciate their farm: "Go for a walk . . . I can walk a mile and still be on [my] own property and it's beautiful back there . . . you can appreciate the things that you've got a lot more" and walking until their stress is relieved. Another farmer explained:

"I have dogs and we go for a walk if I'm having a tough time and I can get myself out the door I'll go for an hour walk and that is a huge difference. Really bad times I've gone for walks for two hours or three hours and just kept going. And quite often that wasn't starting out to be a good walk but by the time I'd finished it's a good walk."

Similarly, farmers shared other forms of physical activity like that “do[ing] yoga” or golfing provided similar stress relief as walking. As one farmer explained:

“any time I get a chance I’ll go golfing, and there’s several people around here think I’m crazy but I’ll golf by myself if I have to. I’m not gonna phone all my buddies and say hey, you want to go golfing? If I see an opportunity to golf, I’ll golf . . . I think that, here I am out on the golf course whacking the ball around and you kind of forget about all the other things in life, right?”

Farmers engaged in a variety of rigorous physical activities that are “challenging, [and that they] actually got to put real effort into” to “release” stress. Some of the activities farmers described included going to the gym: “if I get stressed I go I need to go to the gym. Need to sweat it out, do something”, “play[ing] beach volleyball every week”, “play[ing] hockey”, “riding my horses”, “do[ing] dance lessons” or “going for a bike ride”. As one farmer said, “nothing kind of gives me the release that running did”, and another farmer elaborated, “I ride [my bike] a lot and that’s my escape now . . . I do not sacrifice that for one second because it’s something that I really care about and it really keeps me sane through everything”.

A Few Minutes—“Just Take a Damn Break Sometimes”

When faced with more limited availability, some farmers described relieving stress by “sit[ting] down for half an hour and just do[ing] nothing”. These farmers found “just kicking back” helpful “to take away the worries of that day or things you think might be heavy on your mind”. As one farmer explained, “Sometimes it’s kind of nice to just put your feet up and sit, and I’m finding that’s about as therapeutic as I need sometimes”.

2.1.2. Tractor Therapy—“Sometimes I Just Go and Pull Weeds and I Have to Do Mindless Tasks”

Many farmers talked about “working through [stressors] while . . . you’re doing something else that is relatively routine without having it have a negative impact on the work you were doing” and gave examples of “finding little things that you can do to de-stress like picking weeds”, “stacking bails”, “picking stones”, “go count the cattle”, or “just going out and kind of checking everybody out, and just spending some time out there and sweeping the feed alleys and that type of stuff that helps a bit too”. Farmers explained that this “focused time alone” serves as an opportunity to “sort [solutions to problems] out for yourself”. One farmer explained, “when I’m in the barn gathering eggs that’s when my mind can go blank because it’s such a routine type of thing. That’s usually when I work through these [stressors]”, while another farmer re-iterated, “I spend a lot of time on the tractor so you just kind of look at various angles that you can attack the problem with and address the problem with and having time to think and process is very helpful”. Farmers described stress relief from the opportunity to “turn your brain off” while still being productive: “it’s I’m going to go plow a field for the next 6 h by myself and no one’s going to bother me, and I can think about nothing or just concentrate on furrows and not think about other shit for a while”. They found enjoyment in these tasks: “I kind of like being on the tractor. When you’re working the ground you can smell you know when you get out in the spring and you can smell the earth, the soil and things are working right?” They also benefitted from the “alone time” that comes with these tasks: “pressure wash, clean trailers. I liked that, nobody bothers you then. It’s kind of like mowing the lawn. Nobody bothers you. It’s like picking stones, nobody bothers you”. As one farmer elaborated:

“I think that’s how I best deal with it is I just go in the tractor and go cultivate a field, or go for a walk, or get on the lawnmower and just have time by myself that’s—like that’s how I best cope with that because you know what? I can’t change the weather. I can’t change when the crop ripens. Those things you haven’t got control of so it’s sometimes just best to go out and be by yourself.”

Mindfulness in Tasks—“Like if You’re Peeling Carrots You’re Just Peeling Carrots”

Some farmers found “focus[ing] on the task at hand” a helpful coping strategy when stressors became overwhelming. This mindset helped farmers gain control of their response to farming stressors, “when I find myself actually [focusing on one task] instead of just letting it all overwhelm me and bombard me, and then I feel in control and go okay, I’m being mindful of this, you know?” As one farmer explained:

“Sometimes you’re about ready to panic or freak out and you stop yourself and say wait a minute this isn’t gonna do any good at all and I’m wasting energy and I’ve just got to stop and get logical ‘cause when I was a kid my favourite character on television was Spock right? ‘Cause things were going all to hell on the Enterprise and he’d stop, he’d start just a logical approach that always seemed to win the day, right?”

2.1.3. Social Support

Talking to Other Farmers—“It Makes It a Lot Easier That You Know That You’re Going through It with the People around You. You’re Not Going through It Alone”

Many farmers found that “talking to somebody about the stresses of farming and them being able to understand” relieved stress, and the most common people they talked to were other farmers. Talking to farmers who had experienced similar stressors made farmers “feel better for it because somebody else has been there, been through it”. Farmers described that hearing others say they “know what that’s like” or they have “been in that exact same spot” helped them to “realize hey I’m not the only one going through these struggles. I’m not the only one that maybe it hasn’t quite worked out this way that I wanted to, to get the crop planted or the hay off but that everyone else is struggling with the same sort of issues”. As one farmer explained, “[talking to other farmers] gave me hope that you know what? Everybody goes through this. This is a normal part of farming so we’ll get through it eventually”.

Talking to other farmers was also described to help farmers gain perspective of the situation: “he will in just a few words remind me of that’s what it’s all about” and to not take hardships personally; “so I’m not completely off my rocker, I’m not doing everything wrong . . . this is just as hard for everybody else”. As one farmer explained:

“I was like oh my God, I feel so embarrassed, like, that was so simple why didn’t I do that? And then in talking to my fellow sheep farmers that I show with and they’re like oh, man, that hit my flock two, three years ago or, you know, so you hear it and, like, you’re not alone and I think if farmers actually talked more about what they experience in a lambing, a calving, whatever, you know, they’re farming they’d realize they’re not alone and that’s something I’ve found. I always think it’s just me sometimes, like, what did I mess up on? ‘cause I’m a bit of a perfectionist. And then you realize it’s not just you, like, it’s everybody goes through different things so, yeah.”

However, some farmers also explained they “can’t [talk to other farmers] because lots of times they’re kind of—the neighbours nowadays are mostly kind of in competition with you”. Others described a need to maintain professionalism around their fellow farmers: “sometimes it’s like well this is a person who knows me and that I trust and so that’s all good, but at the same time it’s like this is a person who I’m supposed to be functional in front of right?” Notably, a few farmers also explained they “can’t always talk to other farmers” because there are too few farmers around them; “number one there’s a lot less farmers . . . It means that you don’t have someone next door who understands, and it means you don’t have someone next door who is able to help”, but some farmers mentioned connecting to other farmers through social media if connecting in person was not convenient: “we’re good friends on things like Facebook so sometimes I just reach out to them that way”.

Talking to Industry Professionals—“So Here We Are, Two Yahoos from the Government Trying to Assure Him That Yes, We’re from the Government. We’re Here to Help”

Similarly to talking to other farmers, some industry professionals described being able to console farmers with common problems:

“if they’re talking to their feed rep and they realize oh, other people have these challenges too I think that makes them feel better and it kind of reduces their stress to say okay, I’m not that different. Other people are dealing with this too.”

These industry professionals described helping farmers talk through problems: “So I just . . . tried to ask open-ended questions . . . like how many more lambs do you have in your barn? Have you figured out your cull rate for the year? things like that, that could lead to a problem-solving situation”. Similarly, a focus on positives (“me going out there and trying to talk to them and find other fields that maybe look better than trying to focus on the negative ones”) was described as helping farmers come up with solutions that they couldn’t see due to being immersed in/overwhelmed by stress. One farmer said:

“the farmer has the brick wall and he gets here and he cannot get over that brick wall . . . but then you bring an advisor in and all we do is we walk around the brick wall, or we open the door and walk through it, because . . . they don’t see there’s 12 other options . . . and if you have somebody in that can get the person over, or around the brick wall to get to the other side the crisis is solved. And it’s that third party.”

One banker spoke about wanting farmers to feel comfortable discussing stress with them:

“because I am a banker I’m not sure people would necessarily feel like I am an okay person to share that with. Personally I would hope that they would because I view myself as a partner to their team . . . I want to be like a trusted advisor.”

However, farmers were hesitant to discuss stress with anyone who might deny them services/loans.

A few farmers found that talking to industry professionals relieved stress even if they were “talking about other things”. For example, one industry professional said, “Half the time when I’m visiting the pigs are fine but we end up talking about hockey and everything else ‘cause I might be the only outside of family face they see all week, right?” As one farmer explained:

“And that’s why I like when the milk man comes every second day. That’s why I make sure I’m around when he comes because doesn’t matter what’s going on in the farm, I will leave laughing when I’m talking to him. Either one of them. So I make sure. He comes right after we’re done milking in the morning so it would be rare that I wouldn’t stop to say hello to him and that’s with the people on the farm I think anyway and quite honestly that’s what I try to do for other people too is to bring them out of a bad situation.”

Non-Farming Friends—“I Relied Heavily on the Phone and Some Really, Really Good Friends”

Multiple farmers found that talking to “friends that were supportive even if they didn’t understand [the farming stressors because] they’re from the city of whatever” helped them to cope with stress. Farmers recognized the importance of “hav[ing] a couple of really good friends” that they “could call anytime” and “just kind of unload”. Friends could pass the “barriers you’ve got to break down” when a farmer is hesitant to talk about their mental health. As one farmer explained, “of course your automatic response I’m fine, but he stopped and he says no, how are you really doing? . . . to actually dig a little deeper and say well you don’t look fine, are you okay?” Specifically, farmers valued “non-agricultural people” who they could “just talk about something different” with as an outlet from farming. As one farmer explained:

“but it’s also for us really important to have our friends who are totally disconnected from that who just think it’s cool that we grow food and that we can bring bacon to their house, but don’t ask about the details so that when we need to get away from it and not talk about it we have those friends too.”

Family Members—“If I Really Am Having Trouble I Can Talk to My Wife . . . Or I Could Call My Son”

Some farmers explained that “having a lot of [family members] around all the time” was helpful to cope with stress “because you’re not on your own”. Farmers talked about supporting their spouse in times of stress, “I’m checking in with him every day, are you okay? How are you feeling? Just to be sure that he’s okay” and leaning on their family members.

“I talked to my dad. He’s a farmer and as it was kind of happening he knew one fella a little bit and kind of knew about it and talking to them, actually just to be able to talk to somebody I kind of understood and I could explain it all so they could understand it.”

Minister/Clergy—“I Would Be Inclined More to Talk to a Minister, Somebody That Knew Me a Little Bit and You Know He’s Gonna Be Nice”

Some farmers described “faith [as] a very strong way of coping” and attributed their resilience to farm stress to their faith: “unless you have . . . strong faith [farming] will destroy you”. They elaborated on how “religious faith . . . really, really helps out with [their] mental stress system” because it provides “a sense of community” or “a sense of feeling and belonging”. Several farmers described value in being able to talk to “the local parish priest, or the minister or whatever” or “talk[ing] to [their] minister quite often if [they’re] going through a rough patch”. As one farmer stated, “I had a really good friend who was a minister who I used to talk to every Sunday after church about the situation”. Farmers emphasized that “the minister is maybe the best [person to talk to] to be honest” because of their existing relationship: “the ministers are gonna be nice and they might give you something hard to do or say ‘what was your fault?’ Or what to do differently by knowing you”. A few farmers also described comfort in referring someone to a minister than any other type of mental health professional. As one farmer explained:

“ . . . for me to overtly say to this one gentleman I think you need to see a counselor, I think that’s beyond me. And I think he would be personally offended at this point in time, but for me in an around about way to say if things are financially tough, ‘have you got some help from the church?’ I can say that and feel comfortable.”

2.1.4. Mindsets and Mantras

Acceptance—“The Stuff That Happens That’s beyond Your Control Well, Can’t Do Nothing about It So There’s No Sense in Worrying about It Then”

Many farmers described letting go of stressors outside of their control helped them to cope with stress. This mindset of “worrying about the stuff you can worry about, forgetting about the rest” was described by some participants as having developed over time, “when I started [farming] that stuff really bothered me and then I’ve gotten better and better about managing the fact that I can’t do anything about it”. Other participants learned it from others: “he said ‘I don’t care what you break, just tell me’. ‘Cause he said ‘chances are I’ve done the exact same thing. We’ll just get it fixed and drive on’. I try to be that way to my own kids to let them know that, you know, stuff’s gonna break, stuff’s gonna happen. It’s not worth worrying about that, just keep going”. Farmers used this mindset for stressors such as “the markets or the, like, stuff that happens day to day like the weather, that stuff I can’t do nothing about”. One farmer explained, “When I talk about livestock prices there’s nothing I can do about it so it shouldn’t really get a hold of me. What’s in my control is

what I've got to do right? And leave it at that". Farmers also used this mindset when comparing themselves to others:

"we kind of have this little mindset that if it doesn't affect our four walls we don't care. And it's not that we don't care but we're not gonna let it impact us, right? If there's nothing we can do about it and we can just, you know, stick together and get through it then really it doesn't matter what the people down the road are doing."

Notably, farmers who used this mindset described having low levels of stress: "I think most things I don't worry too much about", "the farm stress I'm pretty good at rolling with that".

Recognizing Limits—"Do the Best You Can"

Multiple farmers described not getting fixated on mistakes, but recognizing their capabilities and working within them. This "do what you can handle" or "do the best you can with what you have" mentality helped farmers to recognize their limits and reduce their workload accordingly. "I think at some point you just have to start to reduce it a little bit, you know? Maybe I won't milk 60 cows anymore. Maybe I'll milk 50, try to do a good job". They could also accept help, as another farmer said:

"I did shift the way I do farming though. I got away from some of the more mechanical side of it and some of the sort of business, like I kind of have . . . like what's the word? Handed that out to other people to do, or just took it away altogether. Like—and so I'm much happier with that."

This mindset also helped farmers prioritize when they had too much work: "It's like well yeah that's a problem but I can't worry about it 'cause I've got more important stuff to focus on".

Plow on—"Might As Well Choose to Be Positive"

Some farmers described "switch[ing] the[ir] attitude" and "choos[ing] to be positive" in times of stress. As one farmer said, "I always try to even if it's negative I try my best. Even if there's tears to push through I try to make it a positive". This mindset helped farmers gain perspective. "There's a lot worse than getting hay in, in the world. So yeah . . . I try to swing it positive", and they think about what they are grateful for in stressful times: "looking at what blessings you have, being grateful for what you have". One farmer explained, "I remember talking to him after the barn burnt and all he said to me was there were no animals in it and no people died, or even got hurt. He said, 'I don't care. It's a building, insurance will cover it, we'll rebuild'".

Similarly, a few farmers described "try[ing] to focus on goals that [they're] trying to accomplish" in times of stress "as opposed to what [they're] going through right then". These farmers explained that "try[ing] to focus on the light at the end of the tunnel" helped them to stay hopeful for the future in hard times. "Know that whatever you're doing probably isn't going to last very long. Every day, or hour or whatever you're getting closer to the end of it". As one farmer explained:

"Remind myself that it's not the end of the world. Basically give myself a little bit more pep talk . . . just, like, in my head when I'm driving be like it's okay . . . you will survive, you will get through this. Tomorrow's another day, today's a bad day, tomorrow's another day."

These farmers described this as a successful coping strategy: "we just kept thinking that we just kept working and plugging away that eventually something good would come of it all and by a miracle it did. So we got this place and it all worked out".

Humour—“The Only Thing That Got Me through Was That I Can Laugh”

Some farmers also discussed humour as a coping strategy: “I don’t know how you can get people to take five seconds away from the broken machine or the failing crops, or the dead cattle, or the poor prices but you can’t do it without laughing and I think that’s what saved me”. Another farmer elaborated:

“We try and maintain a sense of humour. In fact when I go to hire people for the crews the first thing out of our mouths is you better have a good sense of humour, and you better know how to tell a good joke ‘cause you’re gonna need it around here. So that’s how we try really hard to cope with those stresses is we try to maintain a good sense of humour.”

2.1.5. Self-Soothing—“Two Bottles of Wine and I’m Feeling Better about Things”

Some farmers described “turn[ing] to alcohol, or tobacco, or drugs” to cope with stress. They described the soothing of stress that alcohol consumption provided: “it just feels like you’re always hitting a brick wall because you just can’t get past it so yeah that’s kind of where my main need for alcohol comes from” and “there’s nothing a couple shots of alcohol or whiskey at night is the best thing to help you go to sleep . . . that was his way of coping with the stress”. For some participants, turning to alcohol was a shorter-term means of coping. They described having one or two drinks with dinner or with friends: “I will make sure I sit down with a glass of wine or something” or “go home and drink a beer”. For others, alcohol use was described as more of a way to escape thinking about stressors or feeling stressed: “Two bottles of wine and I’m feeling better about things”; “I don’t feel like doing anything today. I’m just gonna drink”. Additionally, others could recognize farmers’ alcohol use as a sign they are stressed. For example, industry professionals described “know[ing] that [farmers] were under stress . . . just by the amount of hours a day [they’re] intoxicated”. Another farmer noted: “It’s so common. Like we like to go to the local pub and you see the farmers that are there, and you know they’re chugging that beer back and it’s because they are so stressed”.

Some participants described social alcohol use as a means of coping with stress, with farmers describing “going to have a beer with friends” as a good way to relieve stress. A few farmers said they talked about their stressors with friends casually, such as “I think it’s a lot of just, like, going over to each other’s places and chatting, and they always bring a case of beer and whatever it is and just kind of chat about things that are going on”, or more seriously, such as:

“I had a couple good friends that would just, you know, they’d listen to you bitch and complain literally for, you know what I mean? You go over and have a beer and, you know, I’m gonna complain and whine for a while and you’re gonna listen and yep, no problem.”

Some farmers also described “party[ing] with friends and get away from it for a bit”, as one farmer described:

“I’ve got a lot of really good friends that I can just, you know, like, not really talk about any of that but just go and have a beer and just kind of you do not have to talk about anything just kind of go hang out and see how they’re doing or whatever.”

Drinking with friends was also described as unhealthy, “it’s neighbours getting together and drinking excessively”.

A couple participants described an “increase in smoking” as a means of coping; as one participant said “specifically in the spring, specifically in the fall when those crops need to come in huge rate of smoking I think is due to that anxiety. [Farmers] start chain smoking more and more”. A couple farmers also described “one thing I do is eat . . . [as] a way of managing [stress]”. One farmer said, “at the end of a bad day all he wanted to do was kick his feet up in the air and eat as many things as he could put his hands on”.

One farmer described shopping as a means of coping;

“I do things for myself on a regular basis and one of them is spend money. Like I had an obsession with tools and if I was having a bad day I’d go and select a tool that I didn’t have and bring it home and it was great. I’d justify buying that tool. It wasn’t something I didn’t need, but I justified buying it and I got the warm and fuzzies for doing that.”

2.1.6. Self-Isolation—“Just Wanting to Just Shut Out the World and Just Block It Out and Not Participate in Humanity”

Some farmers reported “pulling away from [social activities] that normally you’re very involved in” and “farmers trying to isolate themselves” when they are stressed. When participants were stressed, they “shut other things out and other people out” and stopped socializing: “I’m hiding by myself, living under a rock and I don’t have time really to socialize”. As one farmer said, “[I’m] tired and don’t feel like doing anything, don’t really feel like talking to anybody. Definitely don’t want to go out”, while another explained:

“We used to be quite involved and go out to lots of different functions held by some different farming organizations and we used to participate in fall fairs and that kind of stuff and when things were bad . . . I just wanted to stay at home and not really see anybody.”

These farmers recognized they “probably don’t make the best decisions” when they self-isolate, and “don’t seek out advice from others where they could probably help me if I asked them”. Over long periods of high stress, farmers explained this coping strategy led them to “kind of shut down” and “withdraw” from their farm work as well. Participants would do minimal work, e.g., “I don’t really want to go out today. I’m just gonna hang out in the house. All I did was my basic, basic work that I had to do and then I blew everything else off”, while others would stop all work and “just go crawl in my bed and I just—I don’t want to deal with it”.

Overall, farmers described using a variety of coping strategies. Some strategies were farming-specific (e.g., tractor therapy), whereas others were adapted to suit the context of farming (e.g., fitting a few moments of a break into a heavy farming workload). They also described using both positive coping strategies (e.g., social support and adopting a positive mindset) and negative coping strategies (e.g., substance use and social isolation).

2.2. Quantitative Results

2.2.1. Survey Participants

A total of 1167 farmers participated in the national survey of farmer mental health. For a complete description of the study population, see [6]. Briefly, 39.3% of participants were women, which is just over the national approximation (one-third) [41]. Participants’ mean age was 49 (SD 13.7; IQR 38–60, range 20–93), younger than the national mean of 55 [41]. Although all provinces and territories were represented, just under half of the participants were from Ontario (49.5%). The majority of participants were oilseed and grain farmers (53.2%).

2.2.2. Coping Strategies

Results from the 14 questions on ways of coping from the CCHS cycle 1.2 are presented in Table 1. Of the positive coping strategies with the exception of solving the problem (doing something enjoyable, talking to others, exercising, praying, and looking on the bright side), significantly fewer farmers reported using these coping strategies than the general Canadian population ($p < 0.05$). Significantly more farmers reported using all of the negative coping strategies (wishing the situation would go away, blaming themselves, avoiding being with others, eating more or less, sleeping, eating, and doing drugs more often) than the general Canadian population ($p < 0.05$). Women reported more use of both positive coping strategies (doing something enjoyable, talking to others, exercising, and

praying; $p < 0.05$) and negative coping strategies (avoiding the stressor and other people, eating more or less, and sleeping; $p < 0.05$).

Table 1. Reported use of “often” or “sometimes” of the 14 ways of coping by participants, and in comparison to the Canadian representative population and by gender.

14 Ways of Coping	Farmers 2021 n (%)	Canadians % [40]	<i>p</i> -Value ^a	Men n (%)	Women n (%)	<i>p</i> -Value ^b
Positive Coping						
Spirituality						
Praying or seeking spiritual help	352 (35.9)	44	<0.001	185 (20.0)	144 (15.6)	0.04
Somatic Relief						
Exercise	353 (36.1)	40	0.02	150 (16.3)	188 (20.4)	<0.001
Problem Solving						
Problem solving	935 (95.4)	96	0.35	532 (57.6)	348 (37.7)	0.38
Looking on the bright side of things	809 (82.6)	94	<0.001	455 (49.2)	307 (33.2)	0.8
Relax/do something enjoyable	675 (68.9)	86	<0.001	369 (39.9)	269 (29.1)	<0.001
Talk to others	651 (66.3)	80	<0.001	342 (36.9)	264 (28.5)	<0.001
Negative Coping						
Internal Avoidance						
Blame oneself	601 (61.3)	48	<0.001	335 (36.2)	238 (25.7)	0.18
Wish the situation would go away	704 (71.9)	76	0.009	378 (40.9)	292 (31.6)	<0.001
Self-destructive behaviours						
Sleep more	284 (28.9)	20	<0.001	124 (13.4)	145 (15.7)	<0.001
Eat more/less	480 (48.8)	29	<0.001	220 (23.8)	235 (25.4)	<0.001
Drink alcohol more	260 (26.6)	11	<0.001	147 (15.9)	96 (10.4)	0.18
Use drugs more	76 (7.8)	5	<0.001	46 (5.0)	25 (2.7)	0.19
Smoke more	80 (8.0)	-	-	49 (5.3)	25 (2.7)	0.77
External Avoidance						
Avoid others	643 (65.5)	33	<0.001	345 (37.3)	269 (29.0)	0.002

^a statistical comparison between farmer samples and Canadian general population data. ^b statistical comparison between men and women farmers.

3. Discussion

The objective of this study was to explore how farmers in Canada cope with occupational stress, and specifically, to describe coping strategies specific to farming stressors. The qualitative data provide rich descriptions of farming-specific coping strategies and how coping strategies can be adapted within the farming context in Ontario. The quantitative data further these findings by providing a broad understanding of the coping strategies farmers in Canada use and how the coping strategies of farmers in Canada compare to the general population.

Farmers described using tasks that are not very mentally demanding as an opportunity to take a break or problem-solve their stressors. This is consistent with the Job Demands-Resources Model, which posits that highly challenging tasks lead to high stress and job strain when the worker does not have the resources to complete them, and likewise, non-demanding tasks that workers are able to complete with ease do not lead to job strain [42,43]. Although the model suggests tasks a worker can complete easily may lead to job boredom, variability between challenging and easy tasks in an occupation may prevent a worker from burnout and also boredom [42,43]. This finding has important implications for farmers who

delegate tasks on the farm to others; farmers should keep a balance of mentally demanding and mentally easy tasks so that they can have a reprieve from the stresses of farming while staying productive if they cannot take a vacation or time away from the farm. Avenues to reduce stress should provide farmers with strategies they can use while completing easier jobs on their farms.

Adapting farmers' mindsets towards stress/stressors was a coping strategy discussed in the qualitative data and looking on the bright side of things was the second ranked coping strategy on the ways of coping survey measure. The qualitative data provide a lot of context and detail to the quantitative data for this finding, as farmers described farming-specific mindsets and mantras they use when they are stressed. There is evidence that positive re-framing, or thinking about something negative/stressful in a positive way, mediates the negative association between trait gratitude and depressive symptoms [44]. When taught as part of stress-reduction interventions, positive reframing has been associated with long-lasting reductions in perceived stress [45]. Future avenues to boost well-being for this population should build on the examples of positive re-framing that farmers described here to provide farmers with a variety of strategies to use to handle stress.

Detaching from the farm was discussed as a key coping strategy for farmers in the qualitative interviews. Farmers valued opportunities to take a break from thinking about their farm or engaging with people who were not involved with the farm. A key farming stressor is the all-encompassing nature of farming, where farmers live on their farms and work alongside their family members, and therefore cannot "leave work at work" as is possible with many other occupations [46]. Although taking an extended vacation from the farm may not be a realistic recommendation, the farmers in this study explained many alternatives, like going for ice cream and purposely not talking about anything involving their farm. Avenues to reduce farming stress should consider what strategies are realistic to implement on farms, and how stress-reduction recommendations such as taking a break might be adapted to suit the farming lifestyle.

Although talking to others ranked fifth overall of the ways of coping with survey data, farmers endorsed talking to others as a strategy to cope with stress significantly less than the Canadian general population. This is consistent with previous findings that farmers dislike seeking mental health help from others [32,46,47]. However, given the benefits of talking to a range of people farmers in the qualitative interviews described, avenues to reduce stress and boost well-being for farmers should work to reduce the stigma surrounding discussing mental health within the agricultural community and to reduce barriers to communication between farmers. Notably, women endorsed talking to others as a means to cope with stress significantly more than men within our sample. Avenues to reduce stress among farmers should encourage men to talk about their mental health and stress in their lives with others and reduce barriers to doing so [47]. For example, "men's sheds", spaces in communities where men gather and learn skills or work on informal tasks together, have been successful in promoting a sense of belonging and improving well-being outcomes among men in Australia [48]. Additionally, avenues should facilitate women's opportunities to talk to each other about their stresses [32].

Unhealthy/destructive means of coping with stress, like substance use and social isolation, were endorsed within both the qualitative and quantitative datasets. Although they used less than other coping strategies, farmers reported engaging in these means of coping significantly more than the general Canadian population. This is concerning, as there is evidence that avoidance and substance use coping mediate the relationship between stress and psychological distress [49]—symptoms of anxiety and depression that manifest with prolonged high levels of perceived stress. Future research should investigate the motivations behind farmers engaging in these means of coping over healthier strategies. Avenues to improve well-being among farmers should facilitate healthy coping strategies and demote the use of unhealthy means of coping with stress.

Over half of the participants in the national survey reported "avoiding others" when stressed; indeed, in both datasets, farmers endorsed being alone as a means to cope with

stress, but described being alone as both a positive and negative coping strategy. The Ways of Coping measure classifies “avoiding others” as a negative coping strategy, similar to social isolation [49]. However, the qualitative data support “avoiding others” as both a negative and positive coping strategy among farmers, as the participants in this study described wanting to be alone to have time to problem solve, take a break from the mental demands of farming, and practice mindfulness. This distinction should be considered when developing quantitative coping measures for farmers.

A gender difference was observed in the quantitative data, where women reported higher engagement in both positive and negative coping strategies. This finding is consistent with those of previous coping research. For example, military women have been reported to use more emotion-focused coping strategies compared to men [50], and there is evidence that women use a greater variety of coping strategies than men [51–54]. Therefore, the gender difference we observed might be due to men relying more heavily on a few coping strategies. Future research should continue to investigate the gender differences in farmers’ mental health, including supporting men’s and women’s preferred means of coping with farming stress.

4. Conclusions

4.1. Limitations and Future Directions

This study combines rich qualitative data with broad quantitative data, but it is not without limitations. Notably, the interviews were conducted in 2017–2018, prior to the COVID-19 pandemic and other recent crises (e.g., African Swine Fever and Avian Influenza). While the quantitative data related to coping are much more recent, there may exist limitations in the ability of the interview data to reflect current realities. An investigation of farmers’ coping through crises and how experiencing crises influences ways of coping would be useful. Additionally, the most recent nationally representative quantitative data available to compare our sample to those collected in 2002 may be inaccurate for the current Canadian population. In addition, the qualitative data were collected from Ontario farmers only, whereas the quantitative data were collected nationally. Future research should investigate farmers’ coping strategies in other provinces/locations in Canada. Neither sample had Lesbian, Bisexual, Gay, Transgender, or Queer (LGBTQ+) and little Black, Indigenous, or People of Colour (BIPOC) representation. It is recommended that future studies purposively sample participants from these populations. Finally, a convenience sampling method was used for both datasets; ideally, a non-probability sampling method would be used to collect quantitative data to improve generalizability and representativeness.

4.2. Conclusions

This study provides novel mixed-methods data on farmers’ ways of coping with stress attributed to daily occupational stressors in comparison to the general Canadian population. Farmers discussed the strategies they used to cope with occupational stress and endorsed coping strategies that varied significantly from the general Canadian population. It provides valuable insight into the flexible positive coping strategies participants implement despite the workload, place, and time constraints of farming, which has practical implications for the development of stress-reduction avenues for this population. The quantitative data supported the feasibility of promoting the use of these coping strategies. The quantitative data also highlighted that a lesser percentage of farmers use positive coping strategies and a greater percentage of farmers use negative coping strategies compared to the representative Canadian population. Stress-reduction programming should be tailored to farmers’ specific needs, and reflect the flexibility of the strategies farmers found useful within this sample. Future research should investigate farmers’ coping through crises, such as the COVID-19 pandemic and extreme weather events, and qualitatively investigate farmers’ ways of coping across Canada.

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