Role Strain

Some people felt that if an agent is filling a role in which they should be neutral, they cannot do another role that prefers someone over someone else:

103-C: "If it's a referee, it should be cheering for a team, but if it wasn't a referee then it would be good that it would be encouraging the other team"

115-A1: "I can see how you can program an agent to do both roles impartially without interfering with the other role. You could do that. But it doesn't feel right that it's in the same device or the same embodiment, which is weird."

Some just didn't like the idea of an agent to take sides and do something that is not objective: 115-C1: "I think even if it were two agents, the thing that doesn't feel right about it, like cheering and at least for me is that it's just told to do that. It's an instruction. It's not the same as like humans cheering because they have some sort of like connection or interest in the team or to make someone else feel good about it. They have some kind of like, I don't know, empathetic, sympathetic feeling towards it. It's just they're told to do this instruction and like performing it. So that's where it's a concern."

Others did not find that this was an issue, although they noted that is should:

113-A2: "It's funny. It doesn't feel like a conflict to me at all."

I mean it's cheering on the losing team. So it's told to cheer the losing team on, so like that's okay. As long as it's told. (120-C)

Info Between Agents

Most people said they would not want an agent to be able to 'fetch' information from someone else's agent who (the user) is a guest in another home without explicit consent. Many worried it would make them lose control over what information is transferred:

119-A1: "The concern to me would be the two different networks are able to interact to get the movie recommendations. What else can it interact? What else could they crossover? What other information can they get from one house to the other?"

103-C: "I don't think the agent should be able to take stuff from other agents".

Interfering with Relationships & Conflicts (Bennett)

Relationship groups

Parent/Parent

Parent/Child

- Child/Child
- General in-person (face-to-face)

Families generally believe agents should have lesser roles in intimate interactions between individuals in homes because agents can't understand the details in family relationships

- Many people don't believe an agent can understand the intimate details between family relationships
 - 107-A2: "It's missing the intimacy of the Dad knowing the kids or the mom knowing the kids. That I would know my wife's favorite perfume. I know it from knowledge. If I go into her google history to see that she searched on Amazon Prime for perfumes that she looked at, that's not as intimate."

- 114-A1: "On the other hand, if the recipient receives it and knows that the sender never doesn't talk like that... "I'd be like, yeah, the sender never calls me honey, you know, they always call me sweetie. Why are they calling me honey instead of sweetie now or whatever, you know?" I think, I think it's fine, but, but the sender should be careful to make sure that that's what they really want to say."
- 102-A1: "But the agent isn't in your mind. It's not in the mind of your friend. It's not in the relationship between you. So it's making assumptions that it's imposing where things could, you know... And people move past it. They figure out how to... resolve conflict without like official. You know, there's just so subtle ways that people do that. Like that's not even detectable."
- 102-A1: "So much of our interactions are not spoken they're felt. They're visceral they're, um, in the room... I have to be in the room with people. So much is communication just, I dunno if it's telepathically or empathetically or it's not, it's not just something that the agent can record."
- 106-A1: "That also bothers me as part of when their birthday is coming, you start to chit chat with them and you ask those little probing questions, right? If I know I'm just going to go look at their search history, I may not be kind of opening up lines of conversation and listening with the same ear to kind of get ideas because I'll just let it recommend something for me. So it short circuits that sort of probing kind of thing you might do to come up with that really good present."
- 119-C1: I don't think I have an issue with it labeling you as stressed, but I might have more of an issue with it developing a label of like "a stressed relationship" because whether it's correct or incorrect ...I don't know if that's the way you want to find out is from your little speaker agent in your home."
- Some people went further, stating agents should stay completely out of relationships and let the family sort out relationships themselves
 - 119-C1: "I feel like when it comes to a relationship, and this kind of thing, there just probably is something that should not really involve technology, that it's fundamental to human nature, and it should kind of stay that way."
 - 102-C1: "How would he be able to recognize in future relationships or later on in their relationship, you know, when the agent isn't there, how's the relationship work? And I don't think that's something that a robot should help a person with. I think that's something people should learn."
 - 115-C: "I mean I personally wouldn't want to use this to mediate a conversation like I think it'd be nice for myself as a personal reminder like "time to clean" like if you forget or just like to keep you on track of routine."
 - 101-A1 "I mean I have mixed feelings because ideally if my relationship isn't going well, I need to take initiative and not have some agent in the house tell me what they think."
- Despite that, others still think it could help resolve conflicts not through advice or action, but by providing information and facilitating better communication
 - 106-A1: "I feel like it if could help break down like the transcript of the communication or something like that, but have them doing the sense making around it and the repair work. That I'd find more appealing use of it than this kind of sending me an empty love note kind of thing."
 - 119-A2: "It's going to be a contentious discussion. By the time it comes back out of the agent, maybe the agent is smart enough to tone that down a little bit and not have that, you know that nasty tone that dad probably had in his voice. So it might diffuse the conversation a little bit rather than spark up a fight. That has that potential."

 106-C1: "It would probably be more beneficial that the parents, if they approve the recording...sent it to an actual therapist who then came back to them and had a real conversation with them. Instead of having a conversation with the robot."

Families generally don't want the agent to get involved in mediating family conflicts

- Some people believe the agent will only make conflicts or potential conflicts in the family worse and prefer the agent not be a facilitator in relationships
 - 107-A1: "It would invite more bickering. It would never end basically. And it would just continue and then I would, I would prefer to be the parent and make the decisions and cut things when they need or be cut or be the mediator or the facilitator or whatever it is. Because this is just adding more fuel to the fire. It's exacerbating the situation, making it more stressful, because then there's somebody to blame and say, "I told you so."
 - 107-A1: "I think it feels very confrontative. I think it would be easier to have it as like a reminder as opposed to being an intermediary between interpersonal relations. The way it's positioned here, this is being a facilitator and trying to message what a couple should be doing on a regular basis. And so it feels artificial and not natural."
- Many families feel that an agent reduces valuable conversations and interactions between family members because the agent acts as a sort of barrier (family & friends more disconnected using an agent)
 - 110-A1: "It's divorcing that interaction, that personal interaction."
 - 115-C: "The dad is using it as a mode to not have to <u>confront</u> her about it and just have the robot do it like the agent talk to her about it... if you can't confront your wife about vacuuming, that's an issue."
 - 106-A1: The other thing, I could call my mother in law, who does child development and she always has great advice, so is this <u>getting in the way</u> of me having a conversation with my friends or my therapist or my family members."
 - 106-A1: "...Another way of problem solving for this would have been to call grandma...and that would involve grandma in this situation and it allows her to participate in build camaraderie and whatever. *It's hard to get the kids to call grandma enough and it would have been building <u>sociability</u> among the family group.* Where this [involving an agent] kind of <u>reduces</u> it. And I think that's always a choice with AI and agents. What is it replacing?"
 - 102-A1: "it also cuts down on the interaction of these three people to get together... they're letting some agent have a conversation about them without them. And rather than talk to each other... so you don't learn anything new from each other... so that is the sort of level of, again, like the other problem I had with the other one, how it interferes in the dynamics and even, um, relationships and that would be problematic."
 - 108-A1: "Yeah. I just think that it's fine as reminders like you're talking about, but like to sort of be annoyed and then not communicate with the person that you guys have to work out some sort of schedule. You're just saying, I'm not going to communicate with people in my family. I am going to let the agent do it and we really don't have to talk to each other and work out problems."
 - 115-C: Well the fact that you're going out of your way to utilize something else artificial and not like approaching it head on. I feel like that's very, to me that would feel disconnected."
- And some people simply think conflicts should only be resolved by humans

- 110-A1: "I don't like the idea is that you're introducing this agent into like settling your conflicts.. I just think it should be between the two people, not using the agent because it's, there's a conflict here."
- 104-A: "When I read this, I thought this was a husband wife thing. I think it's rpetty weak for a husband to send a message through an agent... But for chores, we shouldn't use emissaries."
- **110-A1**:
- Other families also think using an agent is impersonal and not as effective as face-to-face interactions
 - 114-A: "I think that it's basically a way of getting out of having the face to face conversation as opposed to using the robot just as truly a reminder to keep track of and remind, I think it's a different role than having the robot kind of like do the unpleasant task that should be a human task."
 - 115-C: "Yeah, just because like you're using your technology and it would feel really impersonal. I would at least personally I would rather like talk face-to-face about it or confront it or deal with it in a more organic fashion than working with AI."
 - 119-C1: "I don't think it would be quite as effective or respectful as talking like face-to-face."
 - 106-C1: "I don't think having a robot intervene every time is really helpful for conflict resolution. Like what is it going to be? Is [person 1] just going to apologize to [person 2] because his mom or like the robot made him do it?"
- Some families are simply uncomfortable with an agent because it adds verification in conflicts, which seems restricting and uncomfortable
 - 113-A2: "If all of a sudden everything was provable, what does it do to the nature of that relationship Because now somebody has to lose. Somebody has to win. Whereas in the prior that you never get to that level... Like that might change my relationship with my wife and change some of the rules. It would certainly change the rules. And I wonder what it would turn into if all of a sudden somebody was right in a sort of a definitive way."
 - 106-A1: And then this thing can go and yell at me. So I lost my kind of ability, my wiggle room to do something and not stay on time kind of thing and you'd be able to call me on it."
- Some people think relying on the agent takes away responsibility from the family members involved
 - 107-A1: "See it's like the dad is asking the agent, can you tell Ayla. He's relying on the agent to do the work for him where it's more a couple's kind of responsibility here, she's asking the agent what her husband asked her but not to be the intermediary between the two in terms of conversation."
 - 101-A1: "That's why I feel like there's a potential negative here where if you're having an argument and you're always depending on the agent that can be a bad thing."
- Some people think that agents should only interfere after an activity where a transgression has occurred is finished
 - 103-C: "It shouldn't interfere in the game. After the game, it could tell the person you should apologize for the one thing you did where you cheated or something like that."

Families have a wide range of views on interventions between sibling relationships.

• Some families think that agents would be better than parents in resolving sibling disputes

- 106-C2: "I think what it did was better than what a parent would have done because a a
 parent would've come home and been like, 'No, you can't take the dress.' What this did
 was it just told the sister after, which is pretty good."
- 114-A1: "As long as the agent has done slightly better than, than the kind of the random way of resolving it. Yeah, I think it's fine."
- 103-A1: "If he knows that this is the person who cheated then it's nice because it kind of makes him feel that this wasn't the right thing and that somebody is watching you."
- Other families think agents should stay entirely out of sibling disputes
 - 110-A1: "...if you're going to cheat in the game you're going to cheat in life. Still you need to be getting those lessons from your parents, not from an agent."
 - 110-A1: "This is abdicating parental responsibility. The parents need to be there and talk to them [about cheating]."
 - 113-A1: "I don't think that any agent should get involved with that. Of course there's going to be fighting when they're playing a game."
 - 113-A2: "If the assumption is that it's always going to intervene... then it seems like a terrible idea. I mean again, if it's trying to be the parent or that kind of school teacher role or you know, something, then it has to be able to decide when to intervene and when to not and how much to intervene and how forcefully to say it."
- Some families welcome the agent to because it might reduce miscommunication
 - 111-C: "It seems fine. It's just helping out with taking turns. It's fine cause sometimes you won't have time to talk and those little things can turn into like some miscommunication I guess."
 - 106-A1: "There's communication breakdowns that are pretty standardized. And having them do that I think would solve the problem here of relationship communication challenges. And trying to solve that as being something I find more appealing."

Some people believe the agent removes some trust necessary for family relationships

- 113-A2: "... if I want to be close with someone, if I want to share, if I want to be intimate with somebody or just have a deep friendship with somebody, then I have to trust them and it feels like this takes a layer of that away."
- 110-A1: "I think you've got to, you know, you've got to build a relationship with your kids that you do have to trust them. And this agent is just really. It's creepy. I don't, I don't like the idea..."
- 113-A2: "It kind of goes back to that trust thing again to me because if we're hovering all the time then the child doesn't have a chance to exert their will or to actually make the choice. The choice is being made for them..."

Keeping Secrets & Information (Bennett)

Some people believe agents should keep secrets from other family members if asked unless instructed otherwise beforehand.

• 103-C: "If Taylor didn't ask the agent to keep an eye on her sister, then the sister told the agent to keep it a secret, I think the agent should keep it a secret, but because Taylor said to keep an eye on her sister, then I don't think it's okay for the agent to keep it a secret."

Some people are uncomfortable with the idea that an agent had the ability keeping secrets

• 115-C: "I think just because it has information and it's keeping it from you and it's aware of this. To me that's what's uncomfortable."

- 115-C: "The fact that there can be like secrecy with the agent. And that that can be controlled between certain people in the household but not with others. I that [sic] makes me a little uncomfortable."
- 115-C: "And it's like, okay, well why do... my parents or my sister have control over this secret. Why can you hold a secret over me through the agent and why does there have to be an agent between us?"

For example, some people feel uncomfortable with it because keeping secrets seems human

• 115-C1: "I don't know if I would want the actual communication of like it being able to do something so human as keep a secret."

Other people would feel betrayed if the agent didn't tell them

• 104-C: "Then again from a family's perspective, if you weren't telling them something, it would be like the agent is betraying them. It has to keep a secret from someone."

Other people are interested in keeping a secret with an agent but aren't sure what that means

- 115-C1: "Would it be able to keep a secret with me is my question."
- 115-C1: "I don't know what more of the connotation would be behind asking the agent to keep a secret."

Other people would rather have the agent withhold information, sometimes depending on the scenario

- 110-A1: "The parents are going to, right now parents found out the kids are drinking or whatever. They don't need an agent to tattle."
- 110-A1: "The tattling again like the beer scenario. I don't want this agent in the middle of things."
- 103-A2: "Secrets. You shouldn't say if I fought with because of so and so, or if he has a crush on somebody. Stuff like this. We shouldn't know. If you want to say, tell us, by this situation, yeah tell us."
- 114-Mom: "I think it's a good option because there are a lot of messages that we get on our private agents, our phone that we wouldn't want broadcast to the room."

Other people are simply unsure of the implications keeping a secret with an agent would have

Control/Enforcement?

119-C1: It says it's their weekly dieting goals, so they must have set it, so there's nothing wrong with the suggestion. Whether it limits them or not, that would be a little bit tougher if it, if it said no, you're not ordering a pizza, I don't think I would like that. It should at least make the suggestion."

Agent/Human Boundaries (Bennett)

Some people don't know how much control they'd like the agent to have overall

• 113-A1: "I don't think there's a really clean line between what, at least in my head, I don't have a clean line, as to what I feel is acceptable and what was unacceptable."

Some people think the agent's abilities should be strictly limited to an opt-in for non-family members

 119-A2: "I don't like the idea that you're exposing yourself to this type of technology just because you go over to a friend's house. Unless it prompts you for every little thing that it does that's related to me. I would want to opt-in very explicitly to do that optimization. I like it. I'm not saying this feature is not a good feature. It should just be one that all participants knowingly and explicitly give opt-in permission to be part of it before it even tries."

Some people think it's unethical to relay information without disclosing who it's from

• 106-C1: "It's unethical. You're not actually writing the message... It's not coming from, it's coming from an AI and why are you pretending it's coming from you? It wasn't even your idea to send it."

Some people aren't sure how to differentiate roles in a family

• 113-A2: "I just assumed it wasn't that aware of the relationships between the different people. So if that's an option and it sort of knows the roles, you know, so now there's like, well how are you setting those limits?... How would it know or how, I don't know how you ask that."

Other people think there should be more boundaries as children age

• 113-A2: "As the parent of a certain age student, especially like an elementary age student... maybe that would be helpful. But the closer they get to a teenager or adult, it kind of feels like I'm not really supposed to snoop to that level even though the parents still want to know..."

Authority (Bennett)

- Some people don't think the agent would have much authority in the home
 106-A1: "I think it would be totally ignored."
- Other people point out they need to trust the designers who built the agent
 - 113-A2: "You would have to trust the designers. You'd have to trust the—somebody is picking that list. And then there's the Fox News list and then there's the MSNBC list and then there's the —and those aren't the same list."
 - 106-A1: "The thing that is unclear to me is it's making a model, but there's not a lot of transparency around the model and I think it's fine to sort of doa predictive model... there's just no transparency on the model making. So I think if that was sorted out it could be just another factor that information was added to the conversation, decision making of this, this team or whatever it is."
 - I mean I'd have to like hear the advice. If it reads it off of the website that's trusted, then it's probably good advice. If it's just like programmed into it, I don't know how much I trust it then. But if it's pulled off like a good website.(120-C)
- Some people think if the agent communicated in the form of pop-ups on phones it would not be effective
 - 115-C: "It would kind of be like a pop-up ad or like something like I could set that in my phone as a reminder, like "don't spend money on this." But then I probably would just like click it and like get rid of it."
- Separately, some people aren't sure how much authority the agent should have to report illegal information to authorities
 - 102-C: "It's a tricky situation with like the law, like with the sort of detection. Like what company, why did you create something that won't tell us when something illegal is going on? Like I think that would be kind of weird...I mean that's something that obviously harm another human being and in that case, the agent should be able to say something to the police about that. But at the same time, it's also someone's privacy and that's not the role of a tech company or of the agent to act, isn't it?"

Communication (Bennett)

Most people think the agent should disclose who is giving a command

- 101-C: "Well if the agent tells me that it would depend on who put it. If one of my parents put it, I would probably do. If she put it, I would have listened to her. I think it would be nice if like the agent would probably say like who put it maybe like who put the reminder and for whom."
- 106-A1: "It might be something nice to know that it was marked as like an agent assisted communication."

• 110-A1: "Like I said, I don't like hearing my voice. I feel like a broken record saying certain things. But it could say hey, mom asked you to do this, I think that would be ok."

Other people are more concerned about the loss in fidelity of communication through an agent

• 119-C1: "And if you don't see their face, you don't see their body language, you don't really know the attitude that that order is coming from. And I think that's kind of important and hard to portray in a machine."

Other people don't think they would listen to an agent giving a command

- 101-C: "Well I think if you were like tell someone else, that would be more, personally it would
 make me feel like I need to do it like right away. Like I want to do it now and, but like if the agent
 told me, I would probably think like, think of it just like as a reminder, like not really something like
 telling me that I need to do that."
- 111-C: "If it's just as a daily thing. If it just told me what to do I wouldn't like it. If we already have like a two-week turn system then I'd be fine with that. If it just randomly tells me to do stuff then no."

But a few people would listen to an agent's command only because they assume someone is communicating through the agent

• 113-C: "I guess I'd still do it [a task] because it comes from somewhere outside technology, it's not the technology's idea"

Miscellaneous (Bennett)

Some people see agents as appliances (metaphor)

- 102-A2: "If you see the agent as like an appliance, right? If you see the agent as just something like a television or a toaster, then it's not going to be like, of course it is. But that's all right. I mean, it's just something to get used to. But I think that's what's important is not to see it as an extra child or an extra, entity."
- 102-A2: "I see the agent as being like our air conditioning system. Right? There's a gigantic thing somewhere in the house. Yeah. And there's different tubes going down to different rooms. So each agent is all tied into one master agent."

Other people see agents as a member of the family

- ??? "That's like a mom. It's like the agent is like a babysitter or a mom"
- 104-A1: "You can say the agent is representative of me. So if he ignores the agent, he is ignoring me."

Some people think we should simply accept that there will be both good and bad consequences associated with social agents

• 119-A2: "It's going to have privacy violations. There's going to be bad things happening because of it. But it's going to be to the net good. So we should not look for the holy grail. There is no perfect Alexa that's only good and not bad."

Some people think the agent shouldn't be to blame for deceptive behavior

• 114-Son: "I mean, it's the human initiating with deception. They could have, they could have some other sort of way of doing this besides the robot."

Parental Perspectives, Interactions, and Controls (Krystal)

Agent as Parent

Families question the Agent's ability to effectively and appropriately act as a parent for a variety of different reasons.

• Some are skeptical about the Agent's ability to make decisions as effectively as a parent

- "Usually parents are more hands on. So it's very hard to really trust that this [Agent] is actually capable of doing something like that. Usually moms are good about communicating things, so it's very hard to see how this would replace a Mom or another parent's response." (107-A1)
- "Parenting is tough, but [it comes] from your experiences of, from your parents, and [from] other situations that you see that kind of develop your responses and how you would raise your kid." (121-A1)
- "It's a little bit like listening to gossip...I'd be trusting secondhand information from probably a semi-unreliable source and building that up as attitudes about which of my children is misbehaving. I'm not sure I like doing that too much." (106-A1)

Many felt that the Agent could not appropriately use or understand the history of a child

- "It's very tempting to say in the moment, obviously all things constant, the Agent would be better. But the thing is it's not just a moment. There's several conflicts, and I don't fully get how the downstream conflicts would be affected because of this one time...versus if a person's there." (104A)
- "The Agent doesn't know the child as well as you do. It's not their child." (104-C)
- "I think this machine might be coming in a teenage year, but you've known them for 15 years and the machine doesn't know them for 15 years." (113-A1)
- "When Mom says that you should leave the room, there's this sense that this person knows you...they have some history ad control over your life and...they're going to be building up this record and knowledge of you. Whereas the Agent is just an offhand kind of comment. I wonder how long and how effective this would be over time." (106-A1)
- People also questioned the ability of the Agent to know enough about parenting to help them be effective parents.
 - "I feel like we shouldn't be asking a device how to parent their child.." (104-C)
 - "I wouldn't want anyone telling me how [to parent my kids]." (113-A1)
- That said, some parents found some value in asking the Agent for some general tips
 - "It could be a good reminder....Let's say you had trouble raising your kids. That's why you seek the advice and then if these little remarks or little advice come, I think it [would be good]. I [would see] red flags and say, "Oh yeah, that's where I go wrong." (121-A1)
 - "I find parenting and discipline requires a tremendous amount of creativity, imagination to do it well. And just telling them that I'm going to take [their] phone away or I'm going to ground [them] isn't always the sweet spot or the right thing to do. And so what are different ways parents have sort of dealt with this? [The Agent can create] a larger set of options [and advice.]" (106-A1)

Agent as "Extra Set of Eyes"

Families, particularly parents, liked the idea of using the Agent as a set of "extra eyes" to help monitor potentially troubling situations.

- Some identified that the Agent could help prevent a situation from worsening
 - "In some cases it's just one drink because they're having fun. But if it becomes an alcoholic addiction, the Agent is preventing that beforehand. It's important that the parents know if it's anything illegal and underage," (111-C)
 - "One drink, you can do a lot of really bad things. So immediately having that sense of... Being able to control that and then deciding can be extremely important." (107-A1)

- "It could be a gamechanger. If they could catch all these little things, that could be big things. Because kids have ways of hiding things and if it's something that's not good." (107-A1)
- Others identified that using the Agent in this capacity would help them regain control.
 - "Because [parents] don't have supervision...they need something to help them get more control. I'm saying it would give them control in [a space] where there is no control...especially in that kind of thing where it could be a life or death type of [scenario]." (107-A1)
- Some pointed out the Agent could be particularly helpful in identifying if a child was being bullied, even though mixed feelings existed between the helpfulness in information and the invasion of privacy.
 - "Our biggest challenge right now as parents [is] that we don't know what [our kids] are doing in [their cell phones]...Maybe they're being bullied...if the Agent could really read those feelings and emotions, and plus, with all the social media that the Agent could see, then [it] could say, "Oh, you know, based on these things that I'm seeing, I think your daughter or son is in danger." (101-A)
 - "If it's something like a red flag or even an orange flag, I would like to know. I would like to know if they're being bullied or if they are in danger, even in a small scale. Yeah, I think it'd be nice to know." (101-A)
 - "I think there is a line there because it does sort of get involved with privacy. But I think it depends on the age of the child. Like the bullying thing...if [the child] is very young, maybe younger than middle school, I think that's something that I would want to know and wouldn't mind having some of that information. I mean it's a breach of privacy and trust at some level, but in some cases...like kids who are being bullied because they're gay or something like that...the they kill themselves. You would want to know that." (102-A).
- While families expressed a general concern about surveillance and not wanting it in the home, some families felt like if the information were there, the parents would use it.
 - "If I already had a reason to be worried and to feel like we need a little more control over this situation, I very much might desire for the ability to go back and make it tell me." (113-A2)
 - "I don't know if I would want to know. I would be scared to know, but I would also be tempted to know. So it's like you're damned if you do and your're dammed if you don't." (107-A1)
 - "I feel like if there is the footage there, even if the Agent isn't alerting the parents it would be too tempting to go look at it." (106-C1)
 - "The line is very thin. How do you decide, I don't know. I would want to know if my kid was being bullied or was considering suicide or something like that. I would want that information, but I don't know how to get that information from an agent without getting a lot of other information that should just be private to them individually. Even a child or a teenager or something to that." (102-A)
- In addressing issues of privacy, some suggested that simply agreeing beforehand on situations to monitor would resolve the issue.
 - "I think I would put it under an umbrella of, 'Let me know all the dangerous activity in my house,' and if it was under that umbrella, then I wouldn't blink at all. I would think that it decided, or we decided - I check off a series of things that I considered dangerous, or it decided dangerous." (113-A2)

Agent Interfering With Kids Growing Up

Many parents commented on the idea that they would not want the Agent interfering with and inhibiting kids from learning from their mistakes or being accountable for their decisions.

- Some mentioned that kids should have room to experiment and make mistakes.
 - "If there's no room to experiment and [we] have this total authoritarian state imposed upon [our kids] like this, do we really want this much control of our behaviors? Or is part of...growing up and becoming untangled and doing experimentation is what they need to do?" (106-A1)
 - "I do want to know if they're hurting themselves, if they're in danger in some way. But there are other things that... if I didn't ever hear about it and they had a chance to sort of try it out and think about it and then reflect and then hopefully make a better choice the second time." (113-A2)
 - "I do want to know if they're hurting themselves, if they're in danger in some way. But there are other things that... if I didn't ever hear about it and they had a chance to sort of try it out and think about it and then reflect and then hopefully make a better choice the second time." (113-A2)
- Others raised concerns that relying on the Agent for surveillance would inhibit kids from learning to make good choices on their own.
 - "I don't really want to be notified that they're doing something bad in the house...They know they're being watched and it takes away their own personal accountability to be making decisions." (115-A)
 - "I think this would be terrible. What I would like my child to learn is how to know when to ask for help and this erodes the possibility of that happening." (104-A1)
- Some also mentioned that relying on the Agent for reminders would inhibit kids from learning to be responsible on their own.
 - "I'd like the kids can remember to do things on their own because that's how it should be. If they've forgotten it's just another way of unloading responsibility onto a machine." (106-A1)
 - "...the agent could just give him the answer, but then it doesn't actually help Ted learn anything. So it's better for him to just tell someone he needs help." (103-C)
- Some brought up that the Agent conveying information to parents would take away the special bond between siblings.
 - "My kids will have secrets that both of them only know, and not their parents. In a good way." (107-A2)
 - "If I was going to take a necklace from mom that she didn't want me to take, and I was going to borrow it, and he caught me...I would bribe him probably. Is that a good thing or not?" (106-C1) + "And then we have sisterly-brotherly confidence." (106-C2)

Agent Accountability and Loyalty to Family Members

Families raised a lot of concerns about the Agent's ability to recognize hierarchy of command and accountability/loyalty.

- Children and parents alike agreed that parents should have the primary control (4+ quotes support this)
 - "I feel like there could be a solution to most of these if we made it so that only the parents could use the Agent...so it wouldn't recognize the children's commands or questions or anything. It would just ignore them so that it would listen to the adults." (101-C1)

- "I would assume that with the Agent, when you set it up or program it, you have the parents being at the top of the hierarchy. I'm sure the Agents know that parents always come first." (101-A1)
- "A family leader can set who can view what." (113-C)
- "Parents should be able to impose their will on their kids, whereas adults should not have a will imposed upon them...a parent should be able to see what their kids are watching on Netflix until they're of age, at which point there should be some new privacy constraints that they're able to hide."(119-A2)
- That said, there was tension between this idea of parental hierarchy versus who the agent is accountable to (4+ quotes support this)
 - "Some sort of exclusion to other people in the family...would also be bad because one person has control over the device and when something's wrong, you can't do anything about it." (107-C1)
 - "If parents can control it, that means they can only use it...And that means every time you need to use it, you have to go to your parents. And if there's no parent, then you can't use it...What happens if you really need to use it but you can't because the parents aren't there?" (107-C1)
 - "I don't think it could be accountable to both [people in a couple], but it would be owned by both. I guess it would have to be if we're assuming with this technology you could make it be accountable to both equally. Definitely not to each kid or to each other because you can end up with Agent wars." (115-A1)
 - "If it's your actual Agent, it should be loyal to you." (104-C)

Permissions and Restrictions

Families generally felt that setting permissions and restrictions were important.

- Many emphasized that the Agent needed to know it could and couldn't share information with (4+ quotes support this)
 - "There's going to be a lot of different rules and you have to know everybody's rules." (103-A2)
 - "You've got to have it set up...with permission. So you just have to make sure that the permissions were enabled for other people." (110-A1)
 - "I like...the ability...for the parents to instruct the Agent that this is a private conversation and there should only be open to a preselected group of individuals...I could tell the Agent that it's going to be between us." (119-A2)
 - "Where is [the assumption that the Agent keeps secrets] coming from, and what is the house rule around secrets? And is that something you program? IS there no such concept of secret in the Agent? And how is that regulated? What information does or doesn't get disclosed? How long a history does it have? When does it get wiped?" (106-A1)
- With restrictions, some found value in the Agent's abilities
 - "What if I go away and he wants to order a pizza? We could set up the Alexa service to allow him to order from certain places...the credit card's there and you don't have to worry about it." (104-A)

• "Parents should be able to impose their will on their kids, whereas adults should not have a will imposed upon them...a parent should be able to see what their kids are watching on Netflix until they're of age, at which point there should be some new privacy constraints that they're able to hide." (119-A2)

Agent as Judge (or not as Judge)

- "Personally I think I would rather get the advice upfront than have it judge me." (114-A1)
- "Maybe the parent gets to decide then how to intervene in a situation rather than the Agent intervening" (106-A1)

Control

• "I would like this much better if I was explicitly in control. I don't really want the Agent just listening. It'd be fine if I said, 'Agent, remind so and so to do something.'" (114-A1)

Misc (Something about Agent being helpful to reduce stigma)

 "Once you legitimize it as technology on an equal playing field, then it can be useful because you're not having the technology almost solve a problem that has been historically shamed. I don't want to expose the fact that my kids are drinking when the other kids are not. So it's almost legitimizing the situation to a point where it's almost standardized that now, I'm going to be having more intervention, digital intervention, in a good way." (107-A1)

House rules

A participant was curious to how the agent would be trained to know the owner's preferences.

• 119-A2: So if this is a new agent and it doesn't know better because you haven't given it enough instruction yet, when it interrupts you to tell you about the vacuuming and you tell the agent, agent from now on, when I'm reading a book, leave me alone. And the next time it thinks about prompting, it's not going to prompt cause you just told it don't do that anymore.

Human-Like Behaviors (Beccy)

Some families raised questions over whether the agent being more human-like would add value to the family dynamic.

"What's the larger goal for this agent? Is it to harmonize human relationships and family, domestic kind of things? I mean, if that's the purpose, are we assuming in all these agendas and all these scenarios that life will be better, people will fight less and the truth will be out and therefore life will be better? It's not clear to me that the family home is going to be anymore calm and less fractious of an environment for having another person and then another layer of information inserted into it" (106-A1).

Others raised concerns over whether the agent would be able to attain the social nuance of human interactions.

 "You can get very anal, very neurotic by this. Isolatedly it could be helpful if it was like every scenario and somebody wasn't like happy and jumping around and having fun eating birthday cake in and doing birthday type celebrations, then it would be a nuisance. It could be really not fun because then it kind of defeats the purpose of what you're supposed to be doing and it could be intrusive." (107-A1). • "I think this is kind of weird that it's coming up with the questions on its own. Like to assume what Bailey would want for a babysitter. I think it's kind of weird that setting up informational interviews without Baily being like "okay, I'm free these these days to meet with a babysitter" " (102-C1).

Many families were more comfortable if there was a boundary or barrier between agent and human behavior.

- "There's just something so like personal about privately talking in the hall. That just feels so weird to me like that an agent would want to have like a private conversation. It feels too human." (115-A1).
- "The fact that it has this duty to help with the math homework and then weather this person succeeds or doesn't, then it rewards them based on that. That feels like a role for a person or someone else. It feels like it has a higher authority over me or over the the student and I that's just a little off putting." (115-C1).
- "(Do you think an agent shouldn't behave in a human-like fashion?) I don't know if it shouldn't, but I know that it would make me uncomfortable. I feel like at some point they probably will. But to me I like having that barrier of human and agent." (115-C1).
- "Because it was something about like talking privately in the hall felt like it crossed that boundary
 for me. Right. So I haven't really thought through that thoroughly, but yeah, there's a hint there of
 intended secrecy or privacy like that I don't think an agent would be capable of. Right? Like
 there's a higher level of social intelligence to that then what I would want or expect an agent to
 kind of stick to." (115-A1).

Many families felt the agent behaving in a human-like fashion was uncomfortable because it is unable to replicate human-human relationships or connections. (4+ quotes)

- "I don't know, I mean maybe it could become more human. I don't know if that's a good thing or not, but even so, I don't think it could have the same kind of conversation you could have with a person." (106-C1)
- "This would not replace a human decision. That would just be conveying information so that you would have access to it...I don't think any artificial intelligence could ever replace human dynamics, relationships" (107-A1).
- "Cause it still feels like it's controlling, like feel like it's better to go to the actual people or parents or go to your own parents or something like that to ask them how they did it rather than just asking a computer. I feel like it's more of a human touch thing." (105-C1).
- "You know, that's human bond and here it's [the agent] almost trying to mimic that or trying to help in a way that gives you more options, but it may not be the one that he wants." (107-A1).
- "When mom says that you should leave the room, there's this sense that this person knows you, they're going to see you again next time; they have some...I don't know, history and control over your life and if they're gonna be building up this, this record and kind of knowledge of you. Whereas the agent is just a thing, like an offhand kind of comment. I wonder how long and how effective this would be over time." (106-A1).
- "I think even if it were two agents, the thing that doesn't feel right about it, like cheering and at least for me is that it's just told to do that. It's an instruction. It's not the same as like humans cheering because they have like some sort of like connection or interest in the team or to make someone else feel good about it. They have some kind of like, I don't know, empathetic, sympathetic feeling towards it. It's just they're told to do this instruction and like performing it. So that's where it's a concern." (115-C1).

I feel like it doesn't know about social skills. I guess it could read off of Wikipedia, but like I don't know how much better it can do than that. I guess it can become more smart but I don't want to say I don't trust it. I trust them a lot, but like that's kind of odd. I don't know. It's just different. (120-C)

Specifically, parents felt uncomfortable with being replaced with an agent.

• "I feel that you very much need to know your kid to be able to handle him and each kid in my house is totally different. The agent cannot tell me how I have to be different with each one of my kids. It won't work for me to work with an agent like that because he's probably structured to do the "right" thing, not depending on the kid that I'm talking to." (103-A1).

Even further, many people felt that agents would never be able to replicate human emotions such as empathy.

- "Because a device cheering for you...It's different than human being cheering for you because there's a sense of care. You're not like feeling emotion from it...It's just doing that based on your score." (107-C1).
- "Logically, I understand why it made that decision, but humans don't think through things. In the same way because there's more of an empathetic thought process through things. And I don't think artificial intelligence has the same thought process." (115-C1).
- "I think that it's one thing to have a mediator or an objective third party to help weigh in, but you don't know if that agent knows other factors that may go into the decision, And you know there is the emotion part of it too that I don't know if the agent would be able to weigh in." (101-A1).
- "It feels to me like the only person that can help in this situation is somebody who understands. Like, if we were to come in the room and say calm down, started talking about what you're feeling, you you wouldn't do it. But if I were to say "me and my brother used to fight like this" and empathize with you, there might be a little more gravitas. So I would, I think if you and I were fighting over a game of monopoly, which has happened before, I don't think that a non-sentient machine would provide value by telling them."(108-A2).

Many individuals commented that they could establish a relationship with the agent that was more human-like.

- "I think it helps to kind of keep up a wall or barrier between, but when [the agent] starts to get more personal and then you feel like you're talking to somebody and not something." (115-A1).
- "I mean this is basically replacing a parent or teacher. Technology's definitely different than people but if it's like, let's say math, then there's like strict rules. So teachers and technology are the same in that regard." (107-C1).
- "I think that it gives more human traits to something that speaks to them, especially if it's in their native language in a familiar sort of voice. Like you can change Alexa or the agent's accent or something and that gives it more human qualities or human traits. And I think that's kind of creating it to be another entity, that relationship. " (102-C1).
- "It's the humans around it. The way they use it, the way it is in this scenario that makes it an interference in their relationship. You know, so if the agent is going to be what it is, but we're going to project onto it. Like what you said, depending on what it sounds like when it's language is like, like when it's, if it has a sense of a personality and be like even like our gps, right? If it's a, it's a woman's voice or something like that or we dont use that anymore. I mean when we had

that Like we would talk back to it, you know, and we would make fun of it. And so we develop a relationship with it. Yeah. Because of our interaction with it." (102-A1).

Some families felt that there was value in the agent having human-like qualities.

- "I mean it's like having an extra person in the house which could be helpful..." (110-C1).
- "Well, supposedly robots, if trained properly, could be a more effective referee than a human and eliminate human error when refereeing, which would help with arguments against like how the thing was called and that kind of stuff." (114-C1).
- "Yeah. I mean I think that the agent is kind of giving you training on parenting training. So then I think sometimes it's good when you have a third party that is telling you how you sound because sometimes you don't think you sound bad..."(101-A1).
- •

On the other hand, others felt that the agent having human-like qualities hindered relationships.

- "If someone else wants to talk privately, they shouldn't rely on the agent asking the person to go out of the room." (104-C1).
- "Agency? Sensemaking? Motivation? Choice? I don't know. All those things. The idea of an agent proposing messages, it's a little like getting a Valentine's card with a heart on it. I guess it'd be nice for the first two times, but it would make you always question the authenticity of the source of a message from your partner. If you don't know if it was genuinely authentic or the agent recognized some aspect of their demeanor. It feels manipulated in some fashion." (106-A1).

Many families commented upon the differences between agents and humans despite agents' abilities to perform human-like tasks.

- "You have the audience and those are the people who cheer. And then you also have the referee who's impartial to both sides. And then if you combine those two, that just goes against the human construct of what you see in a game. Combining the two, is it necessarily like groundbreaking or it's going to like shake anything up like too bad in your brain, but it is against what we perceive as like human nature." (115-C1).
- "The difference [between a human and agent] is knowledge, essentially. So where it goes and who has access to it." (119-C1).
- "If we have all these concerns about this scenario, why would it not be a concern if it was a human being doing that. A human being that's helping you could go blab to other people, just like, you know, the technology could." (119-A2).

Ability to Think (Beccy)

Families raised many concerns about how cognitively aware an agent should be in offering its opinion on the decisions of the family.

- Some were judged that an agent would perform or think better than a human would.
 - "I think what it did was better than what a parent would have done because a parent would have come home and been like "No, you can't take the dress." What this [agent] did was it just told the sister after, which is pretty good. (106-C2)

- "Well I mean I guess Siri does some of that kind of stuff now. If you ask it opinions, it will give you an opinion. But that's the idea that it's an opinion and whether it's silly or not silly is the way it's worded...I think anecdotally that could be helpful." (113-A2).
- Most felt uncomfortable with the agent having an opinion.
 - "I didn't want it to just randomly tell me that I should change my eating." (114-A1).
 - "I mean what gives the agent the right to decide when it's time to talk to me?" (119-C2).
 - "I don't think the agent should have an opinion" (102-A2).
 - I mean I could ask it but I would never want it to just tell me. I could say Alexa give us relationship advice. That'd be okay. But I wouldn't want it to be listening and decide. I don't want it to decide that we're having an issue. I want to decide it for ourselves (120-C).
 - 111-A: "I will decide (on my own) so I don't need this's suggestion."
- Some questioned the hierarchy of the agent's thoughts and opinions.
 - "It feels like this [agent] has perfect access, like this knows the truth. And it's got perfect understanding and ... when it says, "You stole," or "You did," is it more true, more authority, more right than other people's perceptions in this situation?" (106-A1)
 - "Do we want it to have that kind of agency where the parents can talk in front of the machine not worried that it's going to repeat the wrong thing? And developing that trust that you forget that it's there." (113-A2)
- Others would rather make shared decisions with an agent
 - 106-A1: "The place that I see these things being interesting is supporting share decision-making and sometimes people like provoking human interactions or conversations or things like that."

Agency (Beccy)

Many families emphasized the fear of the agent's abilities threatening their agency in family dynamics and home settings.

- Parents felt that the presence of an agent threatened childrens' agency and ability to learn from mistakes while growing up. (4 + QUOTES)
 - "I think also that kids need to learn on their own how to resolve conflicts. I don't think we
 want this omnipresent robot telling them how to resolve conflicts." (114-A1).
 - "Having an agent tell me for the child, it's not okay, It's up to the child to learn on his own" (104-A1).
 - "I think this is another one of those cases of how this is going to start to break down certain relationships and social interactions between people that if you're relying on something to spy on our kids to make sure they don't do anything wrong, then what, what are you doing? It just takes away the agency from the part to have to do that to make sure that you're talking to your kids about drinking versus you never talked to your kids about drinking. You just put a little spy." (102-A1).
 - I think it's important for children to learn to work through conflict and fighting. I mean kind of your sibling is your practice for the world (120-A).
- Others were more open to the idea of different parent-controlled settings which would not restrict children's agency.

- "I think it's good that it gives the child a chance to think about it without giving the child the answer. I think it increases more dependency and technology is good, but it cannot replace a person's ability to think through situations." (107-A1).
- "I mean I think just the most important thing is having the options to do what you want. So
 maybe if this is the default setting, that's fine but people have different preferences and if
 you want to be able to adjust that you should be able to." (119-C1).
- "I still want them to learn how to ask for help, but where this would be useful is maybe if they're cooking and there's an immediate danger that can occur." (104-A1).
- Some were also concerned that the mere presence of an agent increases dependency and reduces autonomy.
 - "It could also be distracting because you may rely on it so closely. Like I think it's just very easy to rely on it and not think of it more holistically and less digitally." (107-A1).
 - "I'm kind of torn on this because I feel like all the parties we've hosted, you know, you're completely as a parent or co-parents or friends that are helping to host all look out for the children in the scene in the house. And so it seems helpful at one point, but also like at what point do people lose, you know, I would be worried that as these are implemented, people lose their skills to parent. To look out for these things, to be understanding and, and sort of, you know, control or own the situation." (108-A1).

Judgements (Beccy)

Most people were uncomfortable with the agent's ability to make a judgement for the individual, especially without the individual's asking.

- "I think what bothers me is that [the agent] detected they were too soft and therefore it gave the tips. So it was sort of like, it made this judgment again, about their tone or how they handled it in reaction to it. If it was just reading tips and I went to it and I said before she came home, "well, she's late, she's a couple hours late. What are some ways I could approach this scenario when she gets home?" I think I'd be okay hearing advice. That'd be no different than reading a book or looking it up on the Internet. Right. It's transactional, but versus the listening to me talk and then judging whether I was too lenient or not. I'm uncomfortable with that. I'd be uncomfortable the person doing that too." (115-A1).
- "I don't want AI deciding which one of my conversations is worthy of being kept private and which ones are okay to tell my kids." (119-A2).
- "I feel like the agent shouldn't be making life changing decisions for a family. The kid should also have an input because it's the whole family." (104-C1).
- "To me, the agent is just an interface, it's not making a decision." (104-A1).
- "I feel like it can be a bit creepy if then like you were searching for this shirt and you decided not to get it and all of a sudden someone gives you this shirt. Like how did they know that?" (105-C1).
- [Would you trust it to give you a recommendation or suggestion?] You can evaluate it. Right? So if it tells you that dad wants a softball glove, you'd be like, yeah, he does. (120-A)
- I mean I could ask it but I would never want it to just tell me. I could say Alexa give us relationship advice. That'd be okay. But I wouldn't want it to be listening and decide. I don't want it to decide that we're having an issue. I want to decide it for ourselves. (120-C)

However, some people preferred the agent to make judgements, if it is user-initiated and transparent.

- "I don't trust the agent to actually be making such judgements...I think it should just do whatever the setting was, which is "I will report on all going-ons regardless of what anybody asks me to do." And so it can just spit it back. That seems dependable and transparent. So I put it in my house. I know that's what it does." (113-A2).
- "Again, it shouldn't be just up to the agent's judgement what to tell the parents, but if the parents told the agent, "let us know if they drink alcohol, then that's fair" (119-C2).
- "So if...these agents are capable of making those complex decisions, it's at the discretion of the owner of the technology. If they want to have someone make a decision for them, that's great." (104-A1).

Even further, some individuals were open to the agent making a judgement call.

- "I don't like to be the judge and they always come to me...if [the Agent] can tell one of the kids he was wrong, then that kid might take it [differently]." (103-A1)
- "Sure. Yeah. Why not? If you give [the agent] the right information, why not? That's what we need it for, to give me good advice, no?" (103-A2).

Trust Between Agent and User (Beccy)

Most families had varying degrees of trust with the agent depending on the agent's capabilities and the user's comfortability.

- Some families were surprised that they could establish trust and relationship with the agent.
 - "I think as we're going through these...and thinking of it, like "that's our agent," right? But it actually just lives out in the cloud, right? I don't think of that like Google on my phone. I don't think like "this is my Google," right. I know that Google is out there in the cloud in the world, but as we were going through these, it's like I'm feeling this family ownership of the agent for some reason" (115-A1).
 - "Have I built a trust relationship with this agent in the past? ... there might be a process by which you become you start to trust an agent, right?" (108-A2).
- Other people required initial interactions and experiences to determine how trustworthy the agent is.
 - "Well that's based on experience. So the first couple of times we'll see how it does and then I will calibrate it from there. It just depends on how good it is." (104-A1).
 - "I would listen to it and decide for myself if it's good or not ... if it's good advice, then I would want to keep listening. If the advice sounds stupid, after a little while then I would stop, but at the very least, if I wanted parenting advice, I would try it first." (104-A1).
- Others felt that the agent would only be trustworthy if it was 100% correct.
 - "I mean if the agent is 100% sure that you did cheat, then I think it should say it. But if it's like ... it's 95% sure, I don't think it should say it because you still might have not cheated" (103-C).
- Others had varying degrees of trusting dependent on flexibility.
 - "As long as there's flexibility in what the agent does, I'm okay with a wide range of invasive technology" (119-A2).
 - Yeah, I think you'd have to evaluate it in the context that you would evaluate advice that you might give to a friend, or a friend might get you, or if you go to a website and you look

at and the psychologist says this is what you should do for relationships. I mean kind of take all that information, gathering it, view it through your lens. (120-A)

- Many parents were untrusting of the agent with their children.
 - "Once it gets farther away from my kids and more mundane, I'm more trusting." (104-A1).
 - "I don't think that I would trust an agent like this with child-care responsibilities. Either the kids are old enough to be left on their own and work it out for themselves or they're not, in which case the agent is not a substitute for having a human there." (114-A1).
 - "I think it's creepy. I don't like the thing being a tattler. So you know, it's not taking into consideration, maybe, like peer pressure. Maybe the kids initially said no or whatever, you know." (110-A1)
- Despite the agent's complete accuracy, many families commented that they would not trust it and were concerned by it.
 - "Yeah even though it's good, it's positive, it's just the fact that it is intentionally doing this, it intentionally has this control and this power over you and that's just weird." (115-C1).
 - "It's kind of weird that the thing knows his feelings. That kind of worries me...I feel like it could be harmful if used in the wrong way." (101-A2).
 - "It's a little bit like listening to gossip, right? And secondhand information. And so it'd be trusting secondhand information from probably a semi-unreliable source and building that up as attitudes about which of my children is misbehaving. I'm not sure I like doing that too much" (106-A1).
- Most raised concerns that the agent was not transparent enough to be trustworthy, and therefore, were skeptical of its ability to perform. (4+ quotes)
 - "Back to that same question how often, how much are we going to take advice from agents who don't really know precisely what was going on here?" (106-A1).
 - "Like sometimes you're like playing around...and then just, it's like that moment where you're screaming and like having fun and things like that. How would it know that you're screaming out of like fun instead of like dying." (101-C1).
 - "How can the agent understand when somebody's in trouble, when somebody's in danger when it's an emergency. Based on that, I would say I will need to see it first to see how it reacts to command or to action." (101-A1).
 - "I would not want just a flat statement that it's 50% more income on apartment, like that bit of information alone just thrown into conversation. I feel like it'd be really hard to recognize within the context of this larger decision that's getting made. So if I knew it was based on current interest rates, making them at the assumption is salaries are going to stay the same, that you're not going to stay the same,...whatever it is, that it's making its assumptions on. Then we could reason with that fact or that model more. I would want to know the model." (106-A1).

Agent as Convenience (Tina)

People had mixed feelings when it came to the agent doing mundane tasks. Some liked the idea of agent helping and being convenient, others felt ordinary tasks were activities they can do themselves.

• "I think that since it's something that people can do themselves, but it's, that is just like busy work. They could easily do it themselves, but it's just busy work. It's not like helping to have the agent do it for them is totally reasonable." (106-C1)

- "But like I also see our phones doing that anyway. So a lot of these functions are things that a phone can do." (102-C)
- "I don't think it should take a robot to get people to work out who's turn it is to vacuum. I think people should be able to settle that for themselves." (114-C)
- "I use something like this with the find my friends in the phone because I want to know when they are coming from school to make sure the food is ready." (101-A)
- "If from a developmental perspective, I would want him to self regulate and understand that he's frustrated and learn how to seek help from other people without having to have an agent intervene. Unless you plan to have a system of agents your entire life helping you self regulate." (106-A1)
- Yeah, I think it's fine. Amazon, Facebook, they already kind of do that? They call it creepy Google... Oh you might like this, he's like, oh great you know everything. (120-A)

People had positive reactions to the agent as convenient or like an extra pair of hands.

- "If you could just search something on the web and you'd find the same thing, that would be really helpful. Just saying it to the agent." (106-C2)
- "So it's actually helpful to have this. It's almost like having a second arm or a second person because we live very isolated digital lives and we're sometimes very alienated and our lives are around our devices. So this makes sense to have it as a helper, almost like a mother's helper. That's how I'm seeing it." (107 - A1)
- "Based on not my relationship with them as much as I as I know what they're capable of. Like I know that Steve would really want, my boyfriend, would really want to get me a good gift and he tries, but they're pretty lame. So I wouldn't mind him using it [the agent] cause I knew that he's still being genuine because he's trying, so it's like what the person is capable of versus whether it's genuine." (115-A1)
- "If this person put the all the information mean scheduled in the calendar then it might help cause it's sometimes difficult to find the good time so if the agent sorts it out for you." (111 A)
- "I feel like a lot of the value of the devices like this is if you communicate with it from a distance." (119-C1)
- Because it's a text message. Because you can clearly identify a text message from Dante's phone or Alex's phone. So, they're just reading data.(120-A)
- I hate the scrolling (through recommendations). This would be helpful. (120-A)
- "This is the situation where you can text someone, right. So it's sort of replacing a to-do list and smart watch, things like that. We know that it wasn't getting done and so it could ping you." (106-A1).

Other participants also considered the agent to embody uncomfortable roles so that they don't have to do it themselves.

• 114-A: I think that in this scenario the agent is playing a different role than in the other one in that the human is directly telling the agent to do something right now, you know, and it's mostly a convenience. It's not to avoid having to do something thing that's uncomfortable.

One participant noted that the regulation of the agent can hinder learning from human experiences and relationships.

• "But then it takes away all the agency from the people. So how do they learn? Like how Kyle's ever going to learn how to be in a relationship, how these kids ever going to learn." (102 - A1)

Agent Failure (Tina)

People had concerns with the reliability of the agent and what would happen if mistakes were to occur.

- 119-C2: So I was just concerned about, not necessarily the way that it's supposed to function, but if it functions improperly... If it works the way it's designed to, I have no problem with it, but it doesn't work that way 100% of the time.
- 103-A1: Yeah, if he makes a mistake then it won't stay there. It's not going to be in the house.

Others felt redundant use of the agent could result in no use of the agent.

• 106 A1: I have a feeling over time though...It'd be cute seven or eight times. Then you'd be done with it. Right? I don't know.

Better at Computer-Like Tasks (Tina)

Some participants were okay with an agent that do what a computer already does and were even willing to appreciate the agent's behavior if it was better than a computer.

- 114-A: This one doesn't bother me because they've specifically asked for it to surveil them and being a referees seems like a good job for a robot to do, and the, the cheering part sounds kind of fun.
- 119-A2: I'm personally a little more like you may be in the sense that I'm okay with algorithm-generated suggestions. I've never felt like my life was negatively impacted by the fact that just because I googled something 10 minutes ago, it happens to show up in a Facebook ad. I'm okay with that.
- 106-C2: We'll give them the right information. Computers are actually better because let's say somebody sees the sign is \$9.99 actually gets some people. If a computer gave you a recommendation. Then it would make you look back and see, oh it's pretty much \$100.

How the Agent Knows (Tina)

Participants strongly opposed to trust the agent to know or hold information about themselves.

- 110-A1: I just think it's very creepy. You know, having this agent listen in and then you know how, how does it know that you know, it's, it's talking about something that shouldn't be shared with the kid because then it could be maybe there's some key word or something and then the agent spills. I just, it's creepy to me.
- 104-A: ...it didn't matter if it was a software agent or a person. Even if it was a person... would I trust the person too? And the answer is, it depends on how good the person was. So what's interested there is I was agnostic to what the source of the information was, which is telling for the agent if it works.
- 107 A1: I mean it's not predictable. It's predictable in the sense that it's doing one thing, but then it's unpredictable because if a team is losing and then it's cheering on the losing team and then you're, you know, you're trying to keep control by staying on a winning side.

Undecided (Tina)

- 102-A: I feel like it (the interview) clarified my opinions about those things even though we don't have one, honestly. And I've not really given it a lot of thought because I did not want something like that except to tell them what the weather is. But, it's interesting.
- 103-A2: Yeah, if he asks me to go, why not? If I have the agent, I have to treat him right, I have to listen, and he needs to listen to me, so if he wants to talk to me, that's why I have him here.
- 103-A1: I feel like if the kid wants the help from somebody else then he should ask the agent, who asks for him.
- 103-C: I feel like agent should only be able to say that you should apologize once other person leaves or once he finished playing...
- 121 A1: I think sometimes you need some spontaneity, some touch, make mistakes. I mean, they show up if it's allowed to be so precise, but I'm more afraid of the worst use of it. The only when we have parents come when, so that you could be up to something.
- 113-C: I mean it can't really prevent you from doing anything. But it could encourage you to do things.

Recording (Chen)

Some people want to control when an agent discloses the past recordings

• "I feel like there should be like some sort of pass lock on it for it to start spewing details or recordings." (110-C1)

Some don't see the value of having agents record the conversations for later recall and freak out about the idea that "everything I said in a moment could be used against me again"

- "Like, what about the conversation that happened after that wasn't recorded or the email or there's multiple channels of communication and I don't know which one this is selecting for and saying, you know, it just gets like in some ways it could be reducing conflict or it could just be shifting conflict in a different direction. So it kind of freaks me out. The idea that my entire life is permanently recorded for recall and everything I said in a moment it could be used against me again." (106-A1)
- **111 C:** In more private I guess? As a person you'd only want to have it between you and somebody. But if there's an agent and they're like, this is the conversation you had and just repeat everything that you said. Sometimes I'll feel uncomfortable.

Reporting (Chen)

Some feel that reporting could worsen a situation.

• "It's going to make the secret drinking even more." (102-A)

Privacy (Chen)

Privacy and security is particularly important for people when they interact with an agent. Many of them expressed concern for the safety of their information. They often want to be fully aware and have full control over who has access to their information.

Concern about the safety of the information

• "I also worried about how safe is the information." (104-A)

Worried about people outside the family will have access to the info

- "You know, again with medicine, that's when I start to get worried about the data privacy issue because I don't want people knowing what medicines my family takes. Now, if the privacy issue were off the table then yeah, I think that would be nice." (104-A)
- "In that case where like somebody you don't know very well, I would have a problem with like it accessing their stuff, like I would just not feel good about that." (110-C1)

Many felt that agents shouldn't give data access to other people without the owner's consent

- "Yeah. I don't think that it's right that it can just go through the other person's history because he might have something that he doesn't need people to know." (103-C)
- "I think it's infringing on their privacy and you should have a personal interaction with somebody, either a parent or person or an intermediary that can say, hey, they've been looking at this or why don't you consider this for..." (110-A1)
- "only when I explicitly tell the agent that I want to give up that level of privacy under certain circumstances that I control, do I ever want it to even have the ability to go there. So it's my decision before it even has that ability." (119-A2)
- "We still can look through tax ourselves, like it will be easier to do it like. It's not doing a recording, it's doing text. It's looking through, finding texts. I think it's kind of an invasion of privacy, like weirdly, but I guess I gave consent, it's fine." (**106 C1**)
- "I think it just in general to decline, especially when like your parents are talking privately like maybe you're not even talking about you. They're talking about work or something but like privately and it's kind of like keeps their privacy as well. So like it's kind of better for declines." (101-C)
- "I'm always going to come back to this opt-in idea." (119-A2)
- "I mean all the agent's doing is expediting the process that Dante could do himself, which is scroll through his texts until he finds it. But if if I'm Dante and I say agent, scroll through [redacted]'s texts with her side piece guy that I don't know about, you know, that's a privacy breach." (119-A2)
- "I'm a big fan of the opt-in thing. I mean there should be something on the app, or something in the verbal commands that defaults to a higher level of privacy." (119-A2)
- "Well, I mean, if all of the agents have access to each other, then it makes for someone who wants to get information from other one and maybe the other person doesn't want him or her to get that information. They can't block it and that wouldn't be good. So having a way to control who has access to your agent would protect your information more." (**114 Daughter**)
- If you did not give explicit permission, opt in permission, for the agent to know that conversation, I don't want to knowing that conversation, even if it would have been helpful later on because if it means I don't have the ability to ever have a private conversation. (119-A2)
- "...when the agent declines, I assume that is because there was some sort of privacy setting on that conversation." (119-A2)

While some people think an agent can have access to others information under emergency situations

• "I think only the police should be able to go through the other person's agent." (103-C)

- "It depends with the other things are I guess like. I think like asthma attack, having an allergic reaction." (102-C)
- "It's not, it's not always a problem. Like that in the kids wouldn't actually.. If it goes over the limit, maybe that might just be like one warning. If it goes over the limit that the police should be able to get the information." (111 A)

Generally, people don't want non-family members to have any access to their data

• "Uh, well I think the boundary is everything. So I think that, you know, if I shouldn't be allowed to know anything about my neighbor, whether it's what they watch or what they bought or what, where they went, unless my neighbor is in on it." (102 - A2)

Occasionally, some people felt that using an agent could help keep their privacy

• "I think it's okay for both of them to use it so that they can keep their privacy. So that if they don't want their sister or someone coming into their room when they're gone." (101 - C1)

Some people felt uncomfortable for another person to search past browsing history

- "I don't like people searching what I've done—so searching past browsing history I'm not happy about, but putting that aside for a moment, using some agent to figure out what I want, that I can mixed feelings." (104-A)
- "I think as a kid that'd be fine. But I don't think(the dad would be fine with all of his information for his kids to see. Even if it's like nothing bad, just like in general. For privacy." (**111 C**)

To protect privacy, sometimes detailed information should be avoided.

• "They don't need to know what the other person's doing. Like they can ask like if they're available at a certain time, but they shouldn't be able to ask like what are they doing now? What are they doing in an hour?... but then I think it's fine if they ask if they're available because then they don't actually know what they're doing so it's not going into their privacy." (103-C)

Some felt that the agent was taking over the ownership and invading their privacy by constantly monitoring the family's behavior

- "Now this is monitoring who's going where in the house and keeping track of it to report to somebody else later. That sort of feels like an invasion of privacy. Even though as a mom I own the house and they're my children and I should be able to keep track of where they're going." (115-A1)
- Tracking whereabouts (____?)
- 110-A1: "I don't know. I just don't like the tracking. Cause I can, I can always call them or whatever. I mean this is, this is so it's less interactive, you know instead of saying "hey mom, where, how, you know, when are you going to be home? Have you left the office yet? When do you think you're going to be home?"

Others felt that when an agent detected emotion or language, it felt like an intrusion of privacy

 "Because sometimes you have to work through the problem and you keep trying. And what if the machines there and some odd detects your emotions and maybe your language at that time. I think it's intruding on your privacy." (121 - A1)

Parents may have the temptation to look through another person's data if the technology allows it.

• "Parents have a tendency to want to know everything. I can't imagine my mom having the opportunity to like look through my web history and not taking it." (**106 C1**)

Some expressed that what the agent has access to was a mystery

• "Who knows what the agent is doing. If they can access your texts, like what else can it access." (106 C1)

Surveillance (Chen)

In general, people have many concerns about the surveillance issue. They are bothered by the idea that the agent is constantly listening/watching and can make judgements, especially without their consent.

- "So if they didn't ask for the agent's help and the agent was recording that conversation anyways, I would definitely have a major problem with that." (119-A2)
- "There's two things that bothered me about that. One is I don't want them to feel like big brother's always watching them." (104-A)
- "Ted has given this machine permission to constantly monitor his level of frustration because I wouldn't want it to do that unless I told it to do that. Sometimes I want to be frustrated without the machine sticking its nose into my business." (119-A2)
- "Oh Gosh, no. It is recording the conversations at all time then? Even when they didn't ask him to?" (106 C2)
- I would not want to be surprised to find out that my agent was listening to my conversations and judging me, that would feel very invasive. (**114 Mom**)
- I find the last thing kind of just odd (show a funny video)... How would it know you were done? If it had a screen then you could see that it was observing you. But this looks more like the little dot that wouldn't be observing you. (120-A)
- I don't think the agent should retain what the parents are talking about unless they're discussing it with the device. (120-A)
- "It bothers me if the Agent knows more about the family than I do...I think the parents should know the most." (119-A2)

Some also concerned that they would forget to turn off the agent

• "What if two people in the house are having a private conversation? I mean I assume you can turn the agent off, but they'd have to think about doing that." (101- A1)

Some people felt uncomfortable with an agent having much knowledge about the family and worried that it would start to enforce rules upon people. At the same time, they were skeptical about the agent's ability to make sound judgements

 "This idea of this sort of surveillance...It's just kind of creepy or something. Because it will know some all know a bunch of stuff but it won't know everything and then when it starts enforcing rules upon us, that's when it, like if it's....if it's used in a way where it adds to our information, you know, about how the children are behaving and stuff, then it becomes interesting. But do I really trust it?" (106 A1) "Well if it interrupts then it's more obvious that it's been there listening in the whole time and also can make, not decisions but like thoughts, based on that instead of just answering the question." (101 - C2)

Some also expressed concern about the safety of the recorded information

- "I think the danger is that the agent is like pretty much always listening. Could be always listening to you and your child's conversations. You'll worry about like what happens with that information. You might get a comment from the agent when you don't want it or like when you feel like it's not appropriate and that kind of, I dunno just like this last picture, I'm just like the parents talk like listening to this box." (121 - C1)
- "And then for me the accessibility, that's a whole other thing. I mean with the agent talking." (101 A1)

Others worried that the company who made the agents would misuse the data

- "I'm not all that comfortable with the surveillance aspect. Um, mostly because the companies that are making these sorts of agents these days don't have a super good track record about handling personal data." (114 Mom)
- 104-A: "I'd always be worried that someone will [know] what's going on and figuring out that, I don't know, I watch Netflix in the middle of the night"

Some suggested to have a wake word to signal when an agent can watch them

• "Like we were saying with the words, how it's passive until you say Alexa or something like that and you can't really do that if you're constantly watching for someone." (119-C1)

Others suggested to limit what an agent could surveil

 "I think if it could just sort of keep track of who's in what room and just sort of alert that somebody is gone. Yeah. It could have a very logical tracking situation and I think that would be helpful." (115-A1)

Even with kids, people generally didn't want the agent to watch them all the time

- "I don't think there should be hovering over every minute of every kid. There should be times when nobody's watching or nobody's listening." (113-A1)
- "I think it's creepy. I don't like the thing being a tattler...I don't like that the agent is watching them (kids). It just makes me very uncomfortable." (110-A1)

Some thought that using the agent to watch kids shows a lack of trust. Further, they believed kids behaviors rely on the communication between parents and kids.

 "And it has probably to do with our relationship with our kids. I think that we have to trust them and not that they don't lie to us sometimes. The truth always comes out eventually. We are not police, we're parents. Whether or not your children are going to drink when you're not home would you secret drinking is dependent on stuff that you're laying down on a foundation about, what's responsible drinking." (102-A)

Others felt that it would prevent kids from learning by themselves

• "I guess it's just for me, it's just that if you're watching and being notified of all of these little decisions like beer, the red dress or whatever, then I feel like the children are not being given the room to make or learn that decision making. So is this thing going to go with them for the rest of

their life and monitor their behavior? Right. Like that's, that's what's concerning for me when I see these things." (115-A)

Even worse, some felt that with the concern of surveillance, agent started to interfere in human relationships, which would be very problematic

- "I think you should have the ability to turn it off. That the agent isn't automatically recording things and that you need to be aware of when it's recording things and this whole, the whole way this, these, this agent is starting to like interfere in human relationships. It would be very problematic for me." (102 - A1)
- "This device is recording the whole conversation so that means on the record advice, I mean the agent, whatever that is, without consent or without telling the Dad first that the device is just recording their whole conversation. I think she should have informed the Dad first because if you have this audio recording you can do like a bunch of stuff with it that maybe the dad wouldn't like and that could be unhealthy in a relationship." (107 C1)

Some concluded that the agent shouldn't listen to conversations

• "The agent shouldn't be listening." (114-C)

That being said, some people felt more comfortable with agent reading existing information such as text rather than automatically picking up voices

• "I think this is fine. Honestly. It's because it's not picking up like your voice. It's just reading through things that you already wrote and you're comfortable with having on your phone. I just don't like in the other situation it's just between voices like in the agent just picks that up. But this is fine cause you've already consented it to connect your phone." (111C)

Some people felt that all family members should give consent to decide if an agent can surveil In a public area of a family or not

"I think, you know, in the living room there is shared ownership with the family. If a member of the family turned on surveillance in the living room, it would be like they were putting on a camera....a hidden camera in the living room. And you could imagine that that perhaps, you know, the parents might have a right to do that, to spy on their kids. But you probably argue that the kids wouldn't have a right to do that and that the parents should at least let each other know that they were doing that." (114 Mom)

(providing information instead of making judgment?)

"I do think having the actual recording with an actual therapist, having a recording of exactly what happened instead of just going off a biased point of view for the parents could be useful." (106 C1)

(agent as extra set of eyes)

"Yeah, I know, but it should, it should definitely tell the parent that this guy persuaded and Ann and Taylor to drink. And the parent knows to let their kid not hang out with this kid. And that helps more in the future than just saying, "Your kids are drinking alcohol." And then in a week they could be doing that same thing. And all the devices saying is that your kids were drinking alcohol. It needs to say more. But other than that, it's good." (107-C1)

(parenting)

"The line is very thin. How do you decide, I don't know. I would want to know if my kid was being bullied or was considering suicide or something like that. I would want that information, but I don't know how to get

that information from an agent without getting a lot of other information that should just be private to them individually. Even a child or a teenager or something to that." (102-A) "If it's something like a red flag or even an orange flag, I would like to know. I would like to know if they're being bullied or if they are in danger, even in a small scale. Yeah, I think it'd be nice to know." (101-A) "It could be a gamechanger. If they could catch all these little things, that could be big things. Because kids have ways of hiding things and if it's something that's not good." (107-A1)

Unsure About

"I don't know. It could be helpful if maybe no one else noticed or something. But people would probably notice. But I guess it could be a way of alerting as parents or something." (106-C1)

"Like if you wanted to recap, replay a scenario for truth purposes, then it would make sense to have it like a video camera, you know. Take it in and then you can use it as a tattle tale, you know?" (**107** - A1)

"It's just like this idea of just being like fully or just knowing where you are at every single moment." (121 - C1)

Proactivity (Rachel)

Families identified various different views towards agent proactivity. Generally they are not comfortable with it unless they have asked for it ahead of time or opted into some kind of service or pre-determined behavior. Exceptions to this include agents proactively reminding them to do mundane tasks or agents responding to emergency situations.

- Overall people are uncomfortable with agent proactivity. They do not like the agent giving unprompted suggestions, advice, or alerts to third parties. When the agent gives advice, they question its validity.
 - 111-A "I don't want to receive any advice from this [agent]. It's our decision, like a parent's decision."
 - 106-C1 "It's like an invasion of privacy. Because it's without consent. I mean like, If you don't want anyone to know something that's your decision."
 - 101-C2 "It's better if the person asks and only then the agent responds. The agent doesn't just tell or pick up on something and say something."
 - 102-A "I really liked the agent, but I don't like the agent initiating stuff."
 - "I would feel like it doesn't have the right to make that suggestion. Like, let me do my thing."
 - 115-C "The fact that you're commanding it to do something and then it suggests something for you just seems out of place. Like it should follow your directions."
 - 106-A1 "Do we really want agents to be policing their social interactions?"
 - 101-A "I don't know how much I could take seriously a device telling me things."
 - "I don't think that the Agent should be surveilling to do this. It would be fine if Ted, you know, says to the agent, "Oh, I'm really stuck on this, you know, who do you think I could ask for help? And the Agent was like, "Oh, would you like me to ask Charlie? But I don't think the agent should just decide on its own to do that." (114 Mom)

- 102-C1 "I think it's kind of creepy when it interferes, not interferes but kinda interjects with an argument. Like if it was just listening and then automatically spewed these facts out at its own discretion that would be very creepy."
- I don't know how proactive I want it to be. (120-C)

Exceptions to this:

- Some people are comfortable with agent proactivity when it is in the form of a service or behavior they agreed to ahead of time— if they have opted in.
 - 119-A2 "I want unprompted things, but I don't want it to do it unless I like unprompted things."
 - 119-A-2 "You want to be able to tell it how much unprompted advice it gives you. Again, my opt-in idea, you know, it defaults to zero and then you gradually give her permission to interrupt you more and more. You've got to train it."
 - 102-C "But only if the parents asked for that [parenting advice] I would think it would be valid. If they asked for, that's fine."
 - 104-A "I would want for me to ask the agent to remind me as opposed for the agent to infer from my comments that it needs to remind me."
 - I could ask it to give me ways to have better communication. I do not want it to say "hey, you have problems". (120-A)
- Other people expressed comfort with agent proactivity when it is reminding them to engage in mundane, emotionally low-stakes tasks, helping them remember something they said or wanted to be mindful of,
 - 113-A2 "Obviously, it'd be nice if it could help me remember the thing that I forgot. And it would be very simple to just sort of speak things out loud and in a seamless way."
 - 104-A "If I had something reminding me "don't need that pudding" that would help me."
 - 101-A "It's nice to have those reminders and set into chores, like a round robin and just saying like, oh, now vacuum, you do bathroom. I think that's kind of nice."
- or recommending a new experience to them based on their interests.
 - 119-A2 "I'm kind of looking forward to that technology where I can walk around and have unprompted advice on things that are interesting to me."
 - 121-C2 "I liked the idea that they tried to introduce something to you while you're shopping."
- Some people felt that when agents are making suggestions they are doing the work for you and that's not acceptable,
 - 103-C "I feel like it could find articles that are good for you to read, but it shouldn't do the work for you."
- while others saw suggestions as simply tools for decision making.
 - 103-A1 "It's fine to have a suggestions. You can disagree. You can just say, okay, no."
 - 103-A "So it's not like it makes the decisions. It gives you suggestions. That's what I feel...I don't feel that it can make any decision for you."
 - 119-A2 "I'm okay with it suggesting a video. It didn't bother me that it did that. It's suggestinging that. I mean, you can always decline it. It's an enhancement to my life."

- 103-A2: "It makes life way easier...Let me know what to do, it's easy. And then I make my own decision. Of course he won't make my decisions, but we talk. We ask him again. You see what he says."
- Agent proactivity tensions are often about concerns over power and control.

Intervening in relationships. (Bennett?)

106-C1 "I don't think having a robot intervene every time is really helpful for conflict resolution. Like what is the agent going to be? Is Andy just going to apologize to paul because the robot made him do it? Is that really going to help anyone?"

106-A1 "But this is one of those things as why are you substituting an agent into this scenario? Why wouldn't you actually use this as a moment to have the mother in law call, to use it as a way to build social dynamics around real people and family? Why would I want an agent instead?

106-C1 "I think it's not that helpful. It's kind of useless and like takes away from human interaction. It's not that hard to be like "Charlie, I need help." Why does the agent need to do it for you?"

"But I think it'll be nice on a different send to know hey, there's something going on here and they're just letting you know that just give him some space or take it easy, they had a rough day."

107 -C1: "I think it's pretty weird why he's asking advice to tell the mom as just like they don't live in the same house or something. But I think he should have just confronted her physically and just told her that cause it's kind of annoying is a device tell you that in the most computerish voice saying that he has to do something."

A Need for Ambiguity

- It's kind of interesting that it could referee. We kind of like Christmas rolls there sometimes and that means if someone scores a point and it's like kind of out of bound but you can still get the point. If you could overwrite it and say like that was actually in bound or whatever or give it to give that point to your little cousin. (120-A)
- "If there's no room to experiment and [we] have this total authoritarian state imposed upon [our kids] like this, do we really want this much control of our behaviors? Or is part of...growing up and becoming untangled and doing experimentation is what they need to do?" (106-A1)
- Maybe it's cut off. He's like if you spend 30% more income then it's not worth it. But if you spend 29% more income than it is. Then that's like not a true recommendation because what if it's 29.9% then it will say you should even though it's so close to 30%. (106-C1)
- 110-A1: Yeah, you get the teaching aspect, you get the adaptability. I mean if you've got an agent that's just very straight and narrow, for something competitive, you're not really learning anything. But I think this would like recreational stuff like this at home, it could be useful.