Saliva samples were obtained at three time points (within 30 minutes of waking, 
Dog Personality, and Ten Item Personality Inventory 
and subjects using steroidal medications were not allowed to participate. A 
dogs ranged from 7 to 135 pounds ( 
39 human-dog dyads participated in this study. Human participants (28 female, 
expected to display a greater level of hormonal synchronization. 
One explanation for this could be that dogs are highly perceptive to the social 
behavior of humans, and have the capacity to empathize with them7. 
Whether hormonal synchronization exists within the homes of dogs and their 
human counterparts is unknown. We hypothesized that dogs and their human 
owners would display synchronization of hormonal states, such that higher cortisol 
levels in owners would also be seen in their dogs. Additionally, owners who 
reported a stronger attachment to their dog and have owned the dog longer were 
expected to display a greater level of hormonal synchronization. 

Participants 
39 human-dog dyads participated in this study. Human participants (26 female, 
were recruited through flyers posted online as well as by word of 
mouth. Dogs (16 female, 23 male) consisted of various breeds ranging from 6 
months to 12 years of age (Mage = 5.52 years, SD = 3.27). They were first 
aquired most predominantly through rescues (39.5%), breeders (36.8%), and 
shelters (15.8%), but also from puppy mills or flea markets (7.9%). Weights of 
dogs ranged from 7 to 135 pounds (Mage= 50.68, SD = 27.73). Participants 
and subjects using steroid medications were not allowed to participate. All 
procedures were in accordance with the regulations set forth by the Institutional 
Review Board and the Institutional Animal Care and Use Committee at the 
University of Nebraska Medical Center. 

 Procedure 
Participants obtained their dog’s as well as their own saliva following the 
protocol used in Buttner et al. (2015). Participants were instructed to use 
SaliVettes to collect their own saliva and were provided with strips of gauze to 
collect their dog’s saliva as well. During the day of saliva collection, participants 
were asked to complete a global rating scale described below. The day of saliva 
collection, dogs were also asked to complete a questionnaire describing their 
personality traits. 

Salivettes and subjects using steroidal medications were not allowed to participate. A 
dogs ranged from 7 to 135 pounds ( 
39 human-dog dyads participated in this study. Human participants (28 female, 
expected to display a greater level of hormonal synchronization. 
One explanation for this could be that dogs are highly perceptive to the social 
behavior of humans, and have the capacity to empathize with them7. 
Whether hormonal synchronization exists within the homes of dogs and their 
human counterparts is unknown. We hypothesized that dogs and their human 
owners would display synchronization of hormonal states, such that higher cortisol 
levels in owners would also be seen in their dogs. Additionally, owners who 
reported a stronger attachment to their dog and have owned the dog longer were 
expected to display a greater level of hormonal synchronization. 

Participants 
39 human-dog dyads participated in this study. Human participants (26 female, 
were recruited through flyers posted online as well as by word of 
mouth. Dogs (16 female, 23 male) consisted of various breeds ranging from 6 
months to 12 years of age (Mage = 5.52 years, SD = 3.27). They were first 
aquired most predominantly through rescues (39.5%), breeders (36.8%), and 
shelters (15.8%), but also from puppy mills or flea markets (7.9%). Weights of 
dogs ranged from 7 to 135 pounds (Mage= 50.68, SD = 27.73). Participants 
and subjects using steroid medications were not allowed to participate. All 
procedures were in accordance with the regulations set forth by the Institutional 
Review Board and the Institutional Animal Care and Use Committee at the 
University of Nebraska Medical Center. 

 Procedure 
Participants obtained their dog’s as well as their own saliva following the 
protocol used in Buttner et al. (2015). Participants were instructed to use 
SaliVettes to collect their own saliva and were provided with strips of gauze to 
collect their dog’s saliva as well. During the day of saliva collection, participants 
were asked to complete a global rating scale described below. The day of saliva 
collection, dogs were also asked to complete a questionnaire describing their 
personality traits. 

Salivettes and subjects using steroidal medications were not allowed to participate. A 
dogs ranged from 7 to 135 pounds ( 
39 human-dog dyads participated in this study. Human participants (28 female, 
expected to display a greater level of hormonal synchronization. 
One explanation for this could be that dogs are highly perceptive to the social 
behavior of humans, and have the capacity to empathize with them7. 
Whether hormonal synchronization exists within the homes of dogs and their 
human counterparts is unknown. We hypothesized that dogs and their human 
owners would display synchronization of hormonal states, such that higher cortisol 
levels in owners would also be seen in their dogs. Additionally, owners who 
reported a stronger attachment to their dog and have owned the dog longer were 
expected to display a greater level of hormonal synchronization. 

Participants 
39 human-dog dyads participated in this study. Human participants (26 female, 
were recruited through flyers posted online as well as by word of 
mouth. Dogs (16 female, 23 male) consisted of various breeds ranging from 6 
months to 12 years of age (Mage = 5.52 years, SD = 3.27). They were first 
aquired most predominantly through rescues (39.5%), breeders (36.8%), and 
shelters (15.8%), but also from puppy mills or flea markets (7.9%). Weights of 
dogs ranged from 7 to 135 pounds (Mage= 50.68, SD = 27.73). Participants 
and subjects using steroid medications were not allowed to participate. All 
procedures were in accordance with the regulations set forth by the Institutional 
Review Board and the Institutional Animal Care and Use Committee at the 
University of Nebraska Medical Center. 

 Procedure 
Participants obtained their dog’s as well as their own saliva following the 
protocol used in Buttner et al. (2015). Participants were instructed to use 
SaliVettes to collect their own saliva and were provided with strips of gauze to 
collect their dog’s saliva as well. During the day of saliva collection, participants 
were asked to complete a global rating scale described below. The day of saliva 
collection, dogs were also asked to complete a questionnaire describing their 
personality traits. 

Salivettes and subjects using steroidal medications were not allowed to participate. A 
dogs ranged from 7 to 135 pounds ( 
39 human-dog dyads participated in this study. Human participants (28 female, 
expected to display a greater level of hormonal synchronization. 
One explanation for this could be that dogs are highly perceptive to the social 
behavior of humans, and have the capacity to empathize with them7. 
Whether hormonal synchronization exists within the homes of dogs and their 
human counterparts is unknown. We hypothesized that dogs and their human 
owners would display synchronization of hormonal states, such that higher cortisol 
levels in owners would also be seen in their dogs. Additionally, owners who 
reported a stronger attachment to their dog and have owned the dog longer were 
expected to display a greater level of hormonal synchronization. 

Participants 
39 human-dog dyads participated in this study. Human participants (26 female, 
were recruited through flyers posted online as well as by word of 
mouth. Dogs (16 female, 23 male) consisted of various breeds ranging from 6 
months to 12 years of age (Mage = 5.52 years, SD = 3.27). They were first 
aquired most predominantly through rescues (39.5%), breeders (36.8%), and 
shelters (15.8%), but also from puppy mills or flea markets (7.9%). Weights of 
dogs ranged from 7 to 135 pounds (Mage= 50.68, SD = 27.73). Participants 
and subjects using steroid medications were not allowed to participate. All 
procedures were in accordance with the regulations set forth by the Institutional 
Review Board and the Institutional Animal Care and Use Committee at the 
University of Nebraska Medical Center. 

 Procedure 
Participants obtained their dog’s as well as their own saliva following the 
protocol used in Buttner et al. (2015). Participants were instructed to use 
SaliVettes to collect their own saliva and were provided with strips of gauze to 
collect their dog’s saliva as well. During the day of saliva collection, participants 
were asked to complete a global rating scale described below. The day of saliva 
collection, dogs were also asked to complete a questionnaire describing their 
personality traits. 

Salivettes and subjects using steroidal medications were not allowed to participate. A 
dogs ranged from 7 to 135 pounds ( 
39 human-dog dyads participated in this study. Human participants (28 female, 
expected to display a greater level of hormonal synchronization. 
One explanation for this could be that dogs are highly perceptive to the social 
behavior of humans, and have the capacity to empathize with them7. 
Whether hormonal synchronization exists within the homes of dogs and their 
human counterparts is unknown. We hypothesized that dogs and their human 
owners would display synchronization of hormonal states, such that higher cortisol 
levels in owners would also be seen in their dogs. Additionally, owners who 
reported a stronger attachment to their dog and have owned the dog longer were 
expected to display a greater level of hormonal synchronization. 

Participants 
39 human-dog dyads participated in this study. Human participants (26 female, 
were recruited through flyers posted online as well as by word of 
mouth. Dogs (16 female, 23 male) consisted of various breeds ranging from 6 
months to 12 years of age (Mage = 5.52 years, SD = 3.27). They were first 
aquired most predominantly through rescues (39.5%), breeders (36.8%), and 
shelters (15.8%), but also from puppy mills or flea markets (7.9%). Weights of 
dogs ranged from 7 to 135 pounds (Mage= 50.68, SD = 27.73). Participants 
and subjects using steroid medications were not allowed to participate. All 
procedures were in accordance with the regulations set forth by the Institutional 
Review Board and the Institutional Animal Care and Use Committee at the 
University of Nebraska Medical Center. 

 Procedure 
Participants obtained their dog’s as well as their own saliva following the 
protocol used in Buttner et al. (2015). Participants were instructed to use 
SaliVettes to collect their own saliva and were provided with strips of gauze to 
collect their dog’s saliva as well. During the day of saliva collection, participants 
were asked to complete a global rating scale described below. The day of saliva 
collection, dogs were also asked to complete a questionnaire describing their 
personality traits.